

Year 11

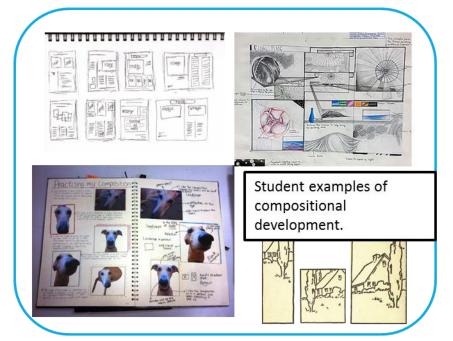
Knowledge Organisers

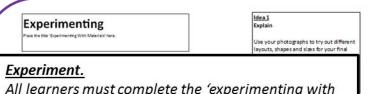
Module 4



"AQA Art Fine GCSE. Final Piece. **Module 4 Knowledge Organiser**

- Learning to plan a final piece.
- 1) Sketch out 3 layouts for your final piece
- 2) Try out different sized/shaped canvases.
- 3) Try out different compositions (the way things are arranged on the page).
- 4) Annotate your ideas.
- 5)Ideas that have been clearly communicated





All learners must complete the 'experimenting with materials and technique' boxes.

Learner must explain what went well even better if.







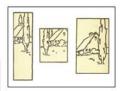




It's the layout how things are arranged in the picture.

Composition







Annotate your ideas .-- Ideas that have been clearly communicated



Year 11 Construction

Module 4 Knowledge Organiser – Unit 2 Practical Construction Skills

HOW TO PREPARE A ROOM FOR PAINTING AND DECORATING

It's important to make some final checks before you get started on your decorating project.

Are the walls and ceiling prepared and ready for painting?

In this guide we'll walk you through the most important steps to take, and show you how to;

Empty your room ready for decorating, and protect fixtures and fittings you aren't painting

Clean your walls to help paint adhere

Fill holes and cracks and smooth your walls for the best possible finish

Prime stained surfaces or those which have not been painted before

Once you've completed these tasks you should have a smooth, even surface ready to be painted.

Safety first

Think about how you're going to reach all surfaces safely. You'll need a sturdy step ladder or work platform to cut in around the edges of the ceiling and walls, as well as paint coving. Consider using a roller on a pole where possible to paint ceilings and walls so that you can work at ground level rather than on steps.

<u>Identify resources required to complete construction</u> <u>tasks – Painting and Decorating</u>

- ✓ Tools Roller, paint brushes, masking tape, paint tray, filer knife, dust sheets, sandpaper.
- ✓ PPE (Personal Protective Equipment) hardhat, hi-vis vest, steel toes cap boots, overalls.
- ✓ Materials Emulsion Paint, Primer, Gloss

Apply health and safety practises in completion of construction task

How should site be set up? Cleanliness and safety of work area Safe Working Practises Use of correct PPE

HOW TO PAINT A WALL

Once your room is prepared, you can begin decorating the ceiling. Whilst this can look tricky, with the right tools you can make light work of a task that'll help your room to look fresher and brighter.

Step 1

Using a paint can opener, or a flat-head screwdriver, carefully open the paint can. Take a paint stirrer, and following the instructions on the can, stir the paint until an even, flowing consistency without any lumps is reached.

Paint cans can be cumbersome, so pour a smaller amount of paint into a paint kettle. Use a paint kettle hook to keep your kettle securely in place if you are working on a step ladder.

Step 2

Before you paint the bulk of your ceiling, paint into the edges of the ceiling and around any ceiling lights or alarms with a small brush. This technique is called cutting in.

If you're going to paint the walls after the ceiling. Use a 50 millimetre (mm) / 2 inch (") paint brush to brush a strip of paint (of about 25mm) onto the walls, which you can paint over later.

If you aren't going to paint the walls. Paint along the edge of the ceiling using a 50mm (2") or 75mm (3") brush. An angled paint brush will help you to paint a neat, straight line but if in doubt of how steady your hand is, use either masking tape to mask the edges or a paint shield to protect the wall.

Paint the edges where the ceiling meets the wall in one go to give the best finish. If you don't complete it all at once you could end up with a visible band around the edges from the paint drying at different times.

Top tip: Keep a decorators cloth to hand

Whenever you are working with paint, keep a decorators cloth or clean rag to hand. This can be used to wipe and mop up any small drips or dabs of paint where you don't want it. Most modern interior emulsion paints are water-based, so a damp cloth is usually all it takes to neaten up a smudge in the wrong place.

Step 3

With the perimeter of the ceiling painted, it's now time to paint the rest.

Fill the reservoir of the roller tray one-third full of paint. Using a roller with an extension pole attached, dip the roller sleeve into the paint and roll it firmly up and down the ribbed incline of the tray to spread the paint evenly. Avoid overloading the sleeve to prevent paint splattering.

Apply the paint to the ceiling using the roller. Move the roller over the surface, using random strokes and a light, even pressure. Each time you dip the roller in the paint, move it to an adjacent unpainted area and work back to the painted area in overlapping strokes to blend in the wet edges.

Sten 4

Once complete, allow the ceiling to dry following the advice on the paint tin. If more than one coat of paint is required, allow the recommended drying time and then repeat steps 2 and 3.

Key Themes

Social Duty: Nobody in society lives in isolation, we are interconnected and responsible for each others welfare. The Birling's initially don't think about their actions effecting Eva but are forced to confront their responsibility.

Social Class: Priestley wrote the play from a socialist perspective. We never hear the views of Edna, the parlour maid because she would not be allowed to express an opinion. The characters judge others purely on their class and riches, not on the content of their character.

Youth and Age: As the play unfolds there is a clear difference between the attitudes of the older and younger generation. Arthur and Sybil refuse to accept responsibility whereas Eric and Sheila are shaken by the Inspectors message.

Cause and Effect: The Inspector outlines a 'chain of events' that lead up to Eva Smith's death. Her suicide is the result of individuals avoiding responsibility for her.

Time: This 'Chain of events' is an example of Priestley's fascination with time and the links between apparently random and unconnected actions. The past is still Present and Cyclical.

The Supernatural: The Inspector's name, 'Goole' could suggest 'ghoul'.

Key Characters Inspector Goole: The central character,

the catalyst for the events that unfold. He has an air of authority to expose how the Birling family are responsible for the death of Eva Smith Arthur Birling: The head of the family. Arrogant, wealthy, overbearing, dominating and used to being in charge. He pays his workers low wages to increase profits and to keep his family in the comfort of their lavish lifestyle. Sybil Birling: She is Arthurs social superior (Comes from a richer family) She shows no regret or remorse and is defiant to the end. She believes one should keep the lower classes 'in their place'.

Sheila Birling: Young, naive and in the shadow of her parents. She starts the play seemingly happy to be entering an arranged marriage (very common in that society of the time) but her attitudes change as a result of the events that unfold throughout the play. Eric Birling: Arrogant, Selfish, Drinker, Rebellious, Immature. He is changed by the events and accepts responsibility. Gerald Croft: Wealthy, shadow of Arthur. He tries to 'protect' himself, not change.

Year 11 Component 3 An Inspector Calls

Social, Historical and Cultural Context

This is one of the most important plays of the 20th century. The play is set in the past but looks to the future, setting out Priestley's arguments for a better future by exposing social inequality through the treatment of Eva Smith. For the working class in 1912, life was tough. There was no welfare and the poor had to depend on charity. If you were born poor, you died poor but it was also a time where people were struggling for change. The Suffragettes, for example, were fighting for votes for women and factory workers threatened strikes for better living conditions. By setting the play in a wealthy upper middle class family, Priestley directly attacked the values of those whose social standing meant they should have a duty of care to others less fortunate than themselves. The play is seen as socialist with a very clear message about the responsibility we have for each other.

Setting

The play is set in 1912 in the Birling's house which is large, comfortable and wealthy. It is just before the first world war breaks out but written after just world war II. The set can be shown as realistic or symbolic linking back to the key themes. Lighting is used to create mood and atmosphere for example the designer could present the first scenes in a warm and inviting orange / yellow followed by a colder white and blue for when the inspector calls.

Btec First Award in Engineering Module 4 Knowledge Organiser - Machining Techniques used in Milling and Drilling.





Criteria 2A. P2

Select and use simple and complex tools for accurate drilling and milling.

For the below sections you have to describe what tools you have used to manufacture you gclamp.

You will also have to explain why you used them and how they helped you. Link to quality control when possible.

Criteria 2A. P3

Select and use simple and complex work-holding devices for accurate drilling and milling.

Example Work

Tools - drilling

Simple tools;

When making the thread bar and the G-clamp I found that the simple tool the drill bit was useful because it gave me the result I wanted I used this piece of equipment on the round bar and the G-clamp to be able to connect the two together. This was because it was able to give me what I wanted, as well it was accurate. I decided to use this simple tool the drill bit because I was able to drill different sized holes. The function of the drill piece is be able to make hole in the work piece, the advantages of using this work piece it will make accurate hole as well being able to drill different sized holes because there are different size drill bit in the G-clamp.

Complex tools;

During my practical lesson of making my G-clamp and thread bar. This meant that the thread bar was able to give me the results I wanted. I decided to use the thread bar because it was the right type of equipment. This tap bar was able to create a thread on my round bar this mean that I was able to connect the round bar to the G-clamp. The tap is able to make a thread with already made hole. For example making a hole in the G-clamp then using the tap to create a thread in the readymade hole. The advantages of using this tool Is have a thread made by hand and the time taken to create the thread is not long at all.

SAFETY AWARENESS IN ENGINEERING

To understand the appropriate behaviour needed when carrying out any engineering task in a workshop environment. This is be able to follow simple rules and regulations in which keeps you and others safe.

Being able to understand what a risk is and being able to identify a situation that could expose someone/thing to danger.

WHAT IS THE IMPORTANCE OF SAFETY AWARENESS

In a working environment it is a high priority to keep all workers and visitors safe at all times. This can be done through training, posters and information booklets so that everybody is aware of the rules and regulations.

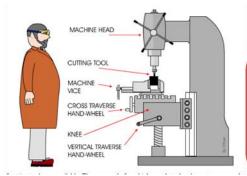
IMPORTANCE OF SAFETY AWARENESS WHEN MACHINING

Through training and understanding the different steps needed to be followed to use a machine properly. By having this knowledge machinists can carry out machining tasks with low risk and no injuries.

Health and Safety in the Workshop Environment

PPE – Personal Protective Equipment
Goggles – To protect eyes from injuries
Apron – To protect clothing and cover up any loose clothing
Clean working environment – reduces chance of injury
Long Hair Tied up – Reduce chances of injury and getting tangled.





A vertical miller is used to shape metals such as mild steel and aluminium. It can also be used to shape plastics such as perspex and nylon. Full size milling machines such as the one shown below are powerful but also very accurate/precise. The cutting tools are very expensive and are broken easily if the machine operator tries to take too deep a cut, in one go. When using a vertical miller, the machine should be set up to cut away only a small amount of metal each time the cutter passes over the surface of the metal.

The larger version of the machine drill is called the pillar drill. This has a long column which stands on the floor. This can do exactly the same work as the bench drill but because of its larger size it is capable of being used to drill larger pieces of materials and produce larger holes.

Plot

- 1. Ebenezer Scrooge is at work in his counting house. Despite the Christmas Eve cold, he refuses to spend money on coals for the fire. Scrooge's turns down his nephew, Fred's, invitation to his Christmas party and the request of two men who want money for charity.
- 2. Scrooge is visited by the ghost of his dead partner, Jacob Marley, who tells Scrooge that, due to his greedy life, he has to wander the Earth wearing heavy chains. Marley tries to stop Scrooge from doing the same. He tells Scrooge that three spirits will visit him during the next three nights. Scrooge falls asleep.
- 3. He wakes and the Ghost of Christmas Past takes Scrooge into the past. Invisible to those he watches, Scrooge revisits his childhood school days, his apprenticeship with a jolly merchant named Fezziwig, and his engagement to Belle, who leaves Scrooge as he loves money too much to love another human being. Scrooge sheds tears of regret before being returned to his bed.
- 4. The Ghost of Christmas Present shows Scrooge Christmas as it will happen that year. Scrooge watches the Cratchit family eat a tiny meal in their little home. He sees Bob Cratchit's crippled son, Tiny Tim, whose kindness and humility warm Scrooge's heart. The spectre shows Scrooge his nephew's Christmas party. Scrooge asks the spirit to stay until the very end. Toward the end of the day the ghost shows Scrooge two starved children, Ignorance and Want. He vanishes as Scrooge notices a dark, hooded figure coming.
- 5. The Ghost of Christmas Yet to Come takes Scrooge through a sequence of scenes linked to an unnamed man's death. Scrooge, is keen to learn the lesson. He begs to know the name of the dead man. He finds himself in a churchyard with the spirit pointing to a grave. Scrooge looks at the headstone and is shocked to read his own name. He is desperate to change his fate and promises to change his ways. He suddenly finds himself safely tucked in his bed.
- 6. Scrooge rushes out onto the street hoping to share his newfound Christmas spirit. He sends a turkey to the Cratchit house and goes to Fred's party, As the years go by, he continues to celebrate Christmas with all his heart. He treats Tiny Tim as if he were his own child, gives gifts for the poor and is kind, generous and warm.

Characters

Ebenezer Scrooge – A selfish business man who transforms into a charitable philanthropist.

Fred – Scrooge's nephew whose party invitation he declines

Jacob Marley – Scrooge's dead partner who returns as a ghost to warn scrooge to change his ways.

Bob Cratchit – Scrooge's clerk who earns starvation wages at 15 shillings per week. He loves his family and is shown to be happy and morally upright.

Tiny Tim – Bob's ill son whose story plays a part in inspiring Scrooge's transformation.

Mrs Cratchit – Bob's wife. Dislikes Scrooge and refuses to toast Scrooge at Xmas dinner.

The Ghost of Christmas Past – A strange combination of young and old, wearing white robes and flowers, holding holly, light streaming from his head.

The Ghost of Christmas Present - A portly, jovial gentleman surrounded by food and plenty. He brings joy to the most needy townsfolk.

The Ghost of Christmas Yet To Come – A hooded and cloaked faceless spirit, similar to the grim reaper who does not speak. Scrooge fears his the most.

Fezziwig – Scrooge's ex-employer

Belle – A woman who scrooge was in love with who left him due to his greed. **Fan** – Scrooge's sister – loved by him, who died during childbirth

Themes

Greed & Generosity/ Poverty & Wealth/ Redemption/ Social Responsibility/ Christmas/ Family/ Capitalism/ Class/ Guilt/ Isolation/ Free will & Fate/ Youth & Age

Context

Dickens' biography

1824 - Father sent to prison for bad debt. *Charles sent to work in a shoe blacking factory, a terrible time for him. He used his childhood experiences in his writing & his sympathy for children in poverty & their families is prevalent.

Victorian London –. The Victorian Era was a time of change in many ways, driven by the changing economy in which there was less of a reliance on agriculture & a move into the Industrial Revolution (when goods changed from being made by hand to being made by machines in factories). Cities became dens of poverty, disease and overcrowding

Malthus (a respected academic & economist) – Dickens shows his disgust with the Malthusian principle that population will always grow faster than food & should be controlled by diseases & starvation.

Class inequality – In general Victorian Society was divided into classes; upper, middle, working class. The upper class were the ruling class & were afforded luxuries & everything you need to succeed in life, namely a good education & access to health care.

Childhood - The result of the expansion of manufacturing processes & the need for coal was child labor. Children as young as for worked 12-14 hours per day, many dying of disease or being killed or maimed in accidents.

The 1834 poor Law Amendment Act & The Work House – Introduced to reduce the cost of looking after the poor. After this, if people in poverty wanted help they had to go to the workhouse to get it. The poor were terrified about the prospect of the workhouse as the conditions were appalling.

Vocabulary

- Allegory
- Contrasts
- Declarative
- ExclamatoryForeshadowing
- Flashback
- Gothic
- Imagery
- Interrogative
- Malthusian
- Metaphor
- Misanthropy
- Noun/verb/adjective etc
- Pathetic Fallacy
- Personification
- Philanthropy
- Protagonist
- Redemption
- Simile
- Symbolism
- Sensory Language

Key quotes

"Oh! But he was a tight-fisted hand at the grindstone, Scrooge...a squeezing, wrenching, grasping, scraping, clutching, covetous old sinner! Hard and sharp as flint...solitary as an oyster'

'Every idiot who goes about with Merry Christmas on his lips should be boiled with his own pudding and buried with a stake of holly through his heart'

'If they would rather die, they had better do it, and decrease the surplus population'

"The chain he drew was clasped about his middle. It was long, and wound about him like a tail; and it was made (for Scrooge observed it closely) of cash-boxes, keys, padlocks, ledgers, deeds, and heavy purses wrought in steel."

'Mankind was my business. The common welfare was my business'

'From the crown of its head there sprung a bright, clear jet of light'

"Old Fezziwig...rubbed his hands; adjusted his capacious waistcoat; laughed all over himself."

'What idol has displaced you? He rejoined. A Golden one.'

'A solitary child, neglected by his friends, is left there still.' Scrooge said he knew it. And he sobbed"

'God bless us everyone'

'Up rose Mrs Cratchit...dressed out but poorly in a twice turned gown, but brave in ribbons, which are cheap and make a goodly show for sixpence.'

"... Eked out by the apple sauce and mashed potatoes it was a sufficient dinner for the whole family"

This boy is Ignorance, this girl is want... beware them both but most of all beware this boy, for on his brow I see that written which is doom.'

'The Phantom slowly, gravely, silently approached. When it came, Scrooge bent down upon his knee; for in the very air through which this Spirit moved it seemed to scatter gloom and mystery.'

'Alleys and archways, like so many cesspools, disgorged their offences of smell, and dirt, and life, upon the straggling streets; and the whole quarter reeked with crime, with filth, and misery.'

He frightened everyone away from him when he was alive, to profit us when he was dead!'

I will honour Christmas in my heart and try to keep it all the year I will live in the past, the present and the future"

'I am as light as a feather, I am as happy as an angel, I'm as merry as a school boy!'

'Where is he my love?...He turned it gently and sidled his face in round the door'

'I'll raise your salary, and endeavour to assist your struggling family'

Context

Courtly Love: a medieval tradition of love between a knight and an unattainable noblewoman common in European literature of the time. The love of the knight for his lady was regarded as an overwhelming passion and the relationship was typically one sided.

Duelling and the concept of honour: Honour was hugely important at the time, and maintaining the honour of your family name was crucial. If you were challenged to a duel and you refused, you would be deemed a coward, thus damaging your honour and the status of your family.

The role of women in a patriarchal society: Elizabethan England was a society controlled by men. Women were seen as the weaker sex and were expected to be ruled over by men. Women needed to be meek and mild, and most importantly, obedient to their fathers and later their husbands.

Arranged marriages: Marriages amongst the wealthy were arranged by parents, and were not about love. Mostly the marriages were arranged for the purposes of status and power, and improving the social standings of families.

The Catholic setting of the play: The play is set in Italy which is a Catholic country. Religion was extremely important, and marriage vows were sacred – once made, they could not be broken.

The Globe Theatre: had different areas for those of all social backgrounds. The theatre was the main form of entertainment for all people. Plays were performed during the day (open air) and heckling was common.

Plot

Act 1

In Italy two noble families, the Montagues and Capulets, have much bad blood between them. Romeo, son of old Montague, is in love with Rosaline, who disdains his love. As a result, Romeo is depressed. To cure him of his love, his friend Benvolio induces him to attend a masked ball at the Capulets, where he could encounter other beauties and forget Rosaline. At the ball, Romeo is attracted by a girl who he learns is Juliet, daughter of the Capulets. They seal their love with a kiss.

Act 2

Romeo lingers in Capulet's garden, standing in the orchard beneath Juliet's balcony. He sees Juliet leaning over the railing, hears her calling out his name, and wishes that he were not a Montague. He reveals his presence, and they resolve, after an ardent love scene, to be married secretly.

Act 3

Tybalt encounters Romeo returning from Friar Lawrence's cell. Romeo, softened by his newfound love and his marriage to Juliet, refuses to be drawn into a quarrel with Tybalt, now his kinsman by marriage. Mercutio grapples with Tybalt and is killed. Aroused to fury by the death of his friend, Romeo fights with Tybalt and kills him and takes shelter in the Friar's cell.

In despair, Juliet seeks Friar Lawrence's advice. He gives her a sleeping potion, which for a time will cause her to appear dead. Thus, on the day of her supposed marriage to Paris, she will be carried to the family vault. By the time she awakens, Romeo will be summoned to the vault and take her away to Mantua.

Act 5

The Friar's letter fails to reach Romeo. When he hears of Juliet's death Romeo procures a deadly poison from an apothecary and secretly returns to Verona to say his last farewell to his deceased wife and die by her side. At Juliet's side, Romeo drinks the poison and dies. When Juliet awakens from her deep sleep, she realises Romeo's error and kills herself with his dagger. The Capulets and Montague decide to reconcile as a result of the deaths of their children

Significant Characters

Rome

Intense, intelligent, quick witted, and loved by his friends.

Juliet

Naïve and sheltered at the beginning, develops into a woman with strength. Grounded.

Mercutio

Romeo's close friend. Wild. playful and sarcastic.

Tybalt

Juliet's cousin. A hothead consumed by issues of family honour. Hates the Montagues.

Benvolio

Romeo's cousin, less quick witted than Romeo and Mercutio, tries to keep the peace.

Friar Lawrence

A Franciscan monk and a friend to both Romeo and Juliet.

The Nurse

Juliet's best friend and confidante, and in many ways is more her mother than Lady Capulet is.

Prince Escalus

Leader of Verona, concerned with keeping order between the warring families.

Key Themes

Love- The love Romeo and Juliet share is beautiful and passionate. It is pure, exhilarating, and transformative, and they are willing to give everything to it. But it is also chaotic and destructive, bringing death to friends, family, and to themselves.

Fate v Freewill No matter what the lovers do, what plans they make, or how much they love each other, their struggles against fate only help fulfill it. But defeating or escaping fate is not the point. No one escapes fate. It is Romeo and Juliet's determination to struggle against fate in order to be together, whether in life or death that shows the fiery passion of their love, and which makes that love eternal.

Individuals v society- Because of their forbidden love, Romeo and Juliet are forced into conflict with the social world around them: family, friends, political authority, and even religion.

Violence and conflict — Conflict is one of the key driving forces in the play and it occurs between a range of characters — within families; within friendship groups; between warring households and between members of the communities. This conflict results in a huge amount of violence — violence opens the play in scene one and it also concludes the play with the deaths of the two lovers.

Language and word play- Romeo and Juliet constantly play with language. They pun, rhyme, and speak in double entendres. All these word games may seem like mere fun, and they are fun. But word play in Romeo and Juliet has a deeper purpose: rebellion. Romeo and Juliet play with language to escape the world.

Literary/Dramatic terminology

PROLOGUE: a separate introductory section of a literary, dramatic, or musical work. In Romeo and Juliet, the prologue summarises the events of the play, informing the audience that the protagonists (main characters) 'take their life' at the end. This then colours the audience's view from the start, as they know that the play is a tragedy.

FORESHADOWING: a warning or indication of a future event.

DRAMATIC IRONY: a literary technique, originally used in Greek tragedy, by which the full significance of a character's words or actions is clear to the audience or reader although unknown to the character. This is particularly apparent once the lovers are married as the majority of the characters have no idea that this has happened.

BAWDY HUMOUR: Bawdy describes humour that is off-colour: about sex or other vulgar topics.

MONOLOGUE: a long speech by one actor in a play, although there can be other characters present on stage.

SOLILOQUY: an act of speaking one's thoughts aloud when by oneself or regardless of any hearers, especially by a character in a play.

OXYMORON: a combination of words that have opposite or very different meanings

METAPHOR: a thing regarded as representative or symbolic of something else. SIMILE: a figure of speech that compares two things by using the words 'like' or 'as' something else. They are compared indirectly.

IMAGERY: to use figurative language (similes, metaphors and personification) to represent objects, actions and ideas in such a way that it appeals to our physical senses.

JUXTAPOSITION: the fact of two things being seen or placed close together with contrasting effect.

TRAGEDY: a play dealing with tragic events and having an unhappy ending, especially one concerning the downfall of the main character.

PROTAGONIST: the leading character or one of the major characters in a play, film, novel, etc

ANTAGONIST: a person who actively opposes or is hostile to someone or something; an adversary.

BLANK VERSE: verse without rhyme, especially that which uses iambic pentameters.

SONNET FORM: composed of three quatrains (4 line stanzas) and a final couplet in iambic pentameter with the rhyme pattern abab cdcd efef gg. Traditionally associated with romance and love poetry.

An Inspector Calls Knowledge Organiser

Plot

- Act 1: The family are celebrating Sheila and Gerald's engagement. Birling makes speeches saying there will be no war, and the Titanic is unsinkable. An Inspector arrives and tells them Eva Smith has committed suicide. He gets Mr B to admit sacking her. He doesn't take blame. Inspector gets Sheila to admit getting her sacked for laughing. She feels guilty and ashamed of herself.
- Act 2: Inspector gets Gerald to admit having an affair with Eva Smith (now called Daisy Renton after a name change). Sheila is upset and questions her relationship with Gerald. Inspector gets Mrs B to admit not helping Eva when she came to Mrs B's charity for help when she became pregnant. Mrs B says it should be the father's responsibility. At the end of the Act, we realise that the father of Eva's baby was Eric.
- Act 3: Eric's involvement with Eva is revealed and a possible rape is hinted at, as he says he forced Eva. The Inspector gives his final speech about fire, blood and anguish. He is warning the family that if they don't start to take responsibility for others, they will live to regret it. Inspector then leaves. Gerald finds out that the Inspector wasn't a real inspector. Mr B rings to check and there is no Inspector Goole. Also, there is no dead girl! Mr and Mrs B (and Gerald) celebrate and act like nothing has happened. Sheila and Eric still feel guilty and can't go back to how they were before. Right at the end, the telephone rings and they are told that a girl has just committed suicide and an inspector is on his way over to ask some questions.

Characters

- Mr Birling: Arrogant and Capitalist businessman who hates social equality and loves money. Sacks Eva from his factory when she asks for equal pay for women and threatens a strike.
- Mrs Birling: Snobbish and cold-hearted Capitalist who believes everyone is responsible for themselves. Doesn't help Eva when she comes to the charity for help.
- Inspector Goole: Priestley's mouthpiece (represents JBP's ideals), keen Socialist who fights for community responsibility and gets the Birlings to face up to what they have done.
- Sheila Birling: The daughter. Gets Eva sacked from the shop for smirking at her. Starts off as a spoilt rich girl but quickly changes her views, feels sorry for Eva Smith and starts to become Socialist as the play progresses. Is ashamed of her parents at the end.
- Eric Birling: The son. Drinks too much and has a one-night stand with Eva. Ends up getting her pregnant and steals from his dad to give Eva money. Regrets his actions and changes his ways. Ashamed of his parents at the end.
- Gerald Croft: Sheila's fiancé. Businessman who has Capitalist ideals and is similar to Mr Birling politically. Shows some regret for his affair with Eva, but happy to act like nothing has happened when it suits him.
- Eva Smith: A young working class woman, who is exploited by wealthy, middle class people. She is presented as a very innocent and vulnerable character and is used to represent the powerlessness of the working class. She is attractive, honourable and she is forced to become a prostitute.

Themes

GENERATION / RESPONSIBILITY / JUSTICE/ GENDER / SOCIAL CLASS/ INEQUALITY

Context

- 1912 when the play was set. Just before WW1 and the sinking of the Titanic. JBP wanted to make sure audiences in 1945 recognised the problems in society in 1912 before the wars (class system, Capitalism, sexism) and weren't tempted to go back to living like that. He wrote the play to highlight the dangers of the Capitalist lifestyle.
- 1945 when the play was written and performed. After WW2, society changed for the better. The benefit system started to be introduced, and we had more equality for women and less of a class divide because of different classes and different genders mixing in the war effort. JBP supported and encouraged these changes and wanted to make sure he promoted them in his play by making Capitalists like the older Birlings appear ignorant and selfish.
- Socialism JBP was a keen socialist. This meant that he wanted everyone to look after each other rather than just caring about themselves. He was trying to promote this with the play, by making the Socialist characters like the Inspector much more respectable than the Capitalist ones. JBP uses the Inspector as a mouthpiece for this.
- Capitalism JBP hated Capitalists those who thought that everyone should only care about themselves and that making money was more important than human rights. He created Mr and Mrs Birling as Capitalists, in order to make Capitalism seem out-dated and selfish. Mr and Mrs B are portrayed in a negative way by JBP for this reason.
- Class/social mobility In 1912, the social classes were segregated, women got paid less than men for the same work, there was no benefit system or help with unemployment or housing. Society was patriarchal (men ruled).
- Family life and gender Men expected to support the perfect family and protect women. Wealthy middle class women were expected to marry into money and plan parties and have children. No housework. Children were expected to be obedient and unquestioning.
- Stereotypes the men and women start out as stereotypes. Women: shopping, clothes, weddings, protected, jealous, hysterical. Men: Work, duty, hero, womanising, drinking. By the end, the stereotypes are reversed – Sheila and Eric get stronger. The others get weaker.

Vocabulary

- Dramatic Irony
- Tension / suspense
- Monologue
- Capitalist
- Socialist
- Interruptions
- Metaphor
- Triplets / list of three
- **Stage Directions**
- Patriarchy/patriarchal
- Contrast
- Direct Address
- Priestley's Mouthpiece
- Repetition
- Playwright
- Audience
- Noun/verbs/adjectives etc
- **Imperatives**
- Interrogatives
- Exclamatory
- Declarative
- Colloquial language
- Metaphor
- Omniscient
- Euphemism
- Imagery
- Setting
- Hierarchy

Key quotes – character

Mr B: 'Hard-headed business man who has to look after himself and his own' 'I refused, of course'

'The famous younger generation...and they can't even take a joke'

Mrs B: 'A rather cold woman and her husband's social superior' 'Girls of that class'

'In the morning they'll be as amused as we are'

IG: 'Millions and millions of Eva Smiths and John Smiths...we are responsible for each other'

'They will learn in fire and blood and anguish'

'Burnt her insides out of course'

Key quotes - theme

Eric: 'Not guite at ease, half-shy, half-assertive'

'I was in the sort of state where a chap easily turns nasty'

'The money's not the important thing'

Gerald: 'We're respectable citizens and not criminals you know'

'Easy well-bred young man-about-town'

'What about this ring'

Sheila: 'very pleased with life and rather excited

'You mustn't try to build a kind of wall between us and that girl. If you do, the Inspector will just break it down'

'It frightens me the way you talk'

Plot

- Act 1: The family are celebrating Sheila and Gerald's engagement. Birling makes speeches saying there will be no war, and the Titanic is unsinkable. An Inspector arrives and tells them Eva Smith has committed suicide. He gets Mr B to admit sacking her. He doesn't take blame. Inspector gets Sheila to admit getting her sacked for laughing. She feels guilty and ashamed of herself.
- Act 2: Inspector gets Gerald to admit having an affair with Eva Smith (now called Daisy Renton after a name change). Sheila is upset and questions her relationship with Gerald. Inspector gets Mrs B to admit not helping Eva when she came to Mrs B's charity for help when she became pregnant. Mrs B says it should be the father's responsibility. At the end of the Act, we realise that the father of Eva's baby was Eric.
- Act 3: Eric's involvement with Eva is revealed and a possible rape is hinted at, as he says he forced Eva. The Inspector gives his final speech about fire, blood and anguish. He is warning the family that if they don't start to take responsibility for others, they will live to regret it. Inspector then leaves. Gerald finds out that the Inspector wasn't a real inspector. Mr B rings to check and there is no Inspector Goole. Also, there is no dead girl! Mr and Mrs B (and Gerald) celebrate and act like nothing has happened. Sheila and Eric still feel guilty and can't go back to how they were before. Right at the end, the telephone rings and they are told that a girl has just committed suicide and an inspector is on his way over to ask some questions.

Characters

- Mr Birling: Arrogant and Capitalist businessman who hates social equality and loves money. Sacks Eva from his factory when she asks for equal pay for women and threatens a strike.
- Mrs Birling: Snobbish and cold-hearted Capitalist who believes everyone is responsible for themselves. Doesn't help Eva when she comes to the charity for help.
- Inspector Goole: Priestley's mouthpiece (represents JBP's ideals), keen Socialist who fights for community responsibility and gets the Birlings to face up to what they have done.
- Sheila Birling: The daughter. Gets Eva sacked from the shop for smirking at her. Starts off as a spoilt rich girl but quickly changes her views, feels sorry for Eva Smith and starts to become Socialist as the play progresses. Is ashamed of her parents at the end.
- Eric Birling: The son. Drinks too much and has a one-night stand with Eva. Ends up getting her pregnant and steals from his dad to give Eva money. Regrets his actions and changes his ways. Ashamed of his parents at the end.
- Gerald Croft: Sheila's fiancé. Businessman who has Capitalist ideals and is similar to Mr Birling politically. Shows some regret for his affair with Eva, but happy to act like nothing has happened when it suits him.
- Eva Smith: A young working class woman, who is exploited by wealthy, middle class people. She is presented as a very innocent and vulnerable character and is used to represent the powerlessness of the working class. She is attractive, honourable and she is forced to become a prostitute.

Themes

GENERATION / RESPONSIBILITY / JUSTICE/ GENDER / SOCIAL CLASS/ INEQUALITY

Context

- 1912 when the play was set. Just before WW1 and the sinking of the Titanic. JBP wanted to make sure audiences in 1945 recognised the problems in society in 1912 before the wars (class system, Capitalism, sexism) and weren't tempted to go back to living like that. He wrote the play to highlight the dangers of the Capitalist lifestyle.
- 1945 when the play was written and performed. After WW2, society changed for the better. The benefit system started to be introduced, and we had more equality for women and less of a class divide because of different classes and different genders mixing in the war effort. JBP supported and encouraged these changes and wanted to make sure he promoted them in his play by making Capitalists like the older Birlings appear ignorant and selfish.
- Socialism JBP was a keen socialist. This meant that he wanted everyone to look after each other rather than just caring about themselves. He was trying to promote this with the play, by making the Socialist characters like the Inspector much more respectable than the Capitalist ones. JBP uses the Inspector as a mouthpiece for this.
- Capitalism JBP hated Capitalists those who thought that everyone should only care about themselves and that making money was more important than human rights. He created Mr and Mrs Birling as Capitalists, in order to make Capitalism seem out-dated and selfish. Mr and Mrs B are portrayed in a negative way by JBP for this reason.
- Class/social mobility In 1912, the social classes were segregated, women got paid less than men for the same work, there was no benefit system or help with unemployment or housing. Society was patriarchal (men ruled).
- Family life and gender Men expected to support the perfect family and protect women. Wealthy middle class women were expected to marry into money and plan parties and have children. No housework. Children were expected to be obedient and unquestioning.
- Stereotypes the men and women start out as stereotypes. Women: shopping, clothes, weddings, protected, jealous, hysterical. Men: Work, duty, hero, womanising, drinking. By the end, the stereotypes are reversed – Sheila and Eric get stronger. The others get weaker.

Vocabulary

- Dramatic Irony
- Tension / suspense
- Monologue
- Capitalist
- Socialist
- Interruptions
- Metaphor
- Triplets / list of three
- Stage Directions
- Patriarchy/patriarchal
- Contrast
- Direct Address
- Priestley's Mouthpiece
- Repetition
- Playwright
- Audience
- Noun/verbs/adjectives etc
- Imperatives
- Interrogatives
 - Exclamatory
- Declarative
- Colloquial language
- Metaphor
- Omniscient
- Euphemism
- Imagery
- Setting
- Hierarchy

Kev quotes – character

Mr B: 'Hard-headed business man who has to look after himself and his own' 'I refused, of course'

'The famous younger generation...and they can't even take a joke'

Mrs B: 'A rather cold woman and her husband's social superior' 'Girls of that class'

'In the morning they'll be as amused as we are'

IG: 'Millions and millions of Eva Smiths and John Smiths...we are responsible for each other'

'They will learn in fire and blood and anguish'

'Burnt her insides out of course'

Key quotes - theme

Eric: 'Not quite at ease, half-shy, half-assertive'

'I was in the sort of state where a chap easily turns nasty'

'The money's not the important thing'

Gerald: 'We're respectable citizens and not criminals you know'

'Easy well-bred young man-about-town'

'What about this ring'

Sheila: 'very pleased with life and rather excited

'You mustn't try to build a kind of wall between us and that girl. If you do, the Inspector will just break it down'

'It frightens me the way you talk'

					T	T	T		T
When we two Parted	Love's Philoso	phy		ia's Lover	Sonnet 29 Elizabeth	Neutral Tones	Letters From Yorkshire	The Farmer's Bride	Technical terms/sentences
Lord Byron	Percy Shelley			Browning	Barrett-Browning	Thomas Hardy	Maura Dooley	Charlotte Mew	
The narrator recalls the	The narrator is	s addressing		its waiting for his	Explicitly about a tree and	Narrator remembers a	A man is gardening. He	Farmer is married but his	Likewise
day he and his partner	a woman and	trying to	lover Po	rphyria. He seems	its description.	day when he and his love	writes to the narrator	bride is frightened of him	In the same way
parted. She didn't seem to	persuade her	to be with	upset w	ith her but then	Implicitly narrator is	are by a pond. It's clear	about it. The narrator	and men. He describes	Similarly
have any affection for him	him romantica	ally. Narrator	decides	she loves him and	telling her lover how	that the relationship is	reflects on their different	how the relationship	Equally
anymore. Even though	gives example	s to show	kills Por	phyria by	much she thinks about	about to end. Whenever	lives – city writing vs	went wrong. He accepts	As with
time has passed, hearing	how everythin	ig in nature	stranglir	ng her with her	him when they are apart.	he has been hurt since, he	country outside. She	no responsibility for her	Comparatively
her name affects the	is connected -	- and so	own hai	r to keep her his		recalls that day.	wonders which is more	fear.	
narrator deeply.	should they.		forever.		Married Robert Browning.		fulfilling.		However
					Father disapproved – so	In a loveless marriage.		Wrote between Victorian	On the other hand
Writer known for having	He believed in	'free love'	Victoria	n poet – ideas of	they sent secret love	Rejected religion. Written	Grew up in Bristol,	era and modern. Father	Conversely
affairs and moved abroad	which is contra	adictory to	class/ge	nder etc.	letters. Father disowned	during the Romanticist	worked in Yorkshire and	dies leaving her and	Alternatively
following a break-up.	this poem. Ha	d strong	Preferre	d the monologue	her following marriage	period	moved to London –	siblings very poor. All	In contrast
From the Romantic Era –	views on religi	ion, atheism	form.		Her following marriage		reflected in poem.	separated to survive.	Contrastingly
uses nature	and socialism.	From the			'I think of thee! – My	'Your face, and the God-	reflected in poem.		
	Romantic Era.		(In one I	ong yellow string I	thoughts do twine and	curst sun, and a tree,/ and	'He saw the first lapwings	'We caught her, fetched	The writer uses
'When we two parted/in				three times her	bud/about thee, as wild	a pond edged with greyish	return and came/indoors	her home at last/ and	The (verb etc)implies
silence and tears,/Half-	'See the mour	ntains kiss		oat around/ and	vines, about a tree.'	leaves.'	to write to me, his	turned the key upon her	Suggests/emphasises/means
broken hearted/ To sever	high heaven/	and the			viries, about a tree.		1 · · · · · · · · · · · · · · · · · · ·	fast.'	The speaker
for years.'	waves clasp or		strangle	a ner.			knuckles singing'		
Walking Away	Eden Rock		Followe	r	Mother, any Distance	Before you were mine	Winter Swans	Singh Song!	Climbing my grandfather
Cecil Day-Lewis	Charles Causle	ev.	Seamus		Simon Armitage	Carol Ann Duffy	Owen Sheers	Daljit Nagra	Andrew Waterhouse
Father remembers son's	Narrator imag	•		vorking with his	Narrator's mother comes	Speaker is looking at a	A speaker describes an	The speaker talks about	Speaker idolises his
first football game and	parents are bo			on trailing behind	to his new house to help	photo of her mother	argument occurring	running his father's	Grandfather and describes
worries as he walks away	again. They ar			her is skilled and	him move in. Narrator	before she was born and	whilst walking around a	corner shop and his life	climbing a mountain, using
from him. Memory still	riverbank havi			rt. Son admires	looks forward to	imagining her mother's	lake in winter. They	and desire to be with the	images of his grandfather to
affects the father deeply	Narrator is on		father. I		independence but is also	life before she arrived.	observe the swans	new bride all the time. It	mix with the journey.
but understands this is				ed to the son,	scared by it. Mother keen	The narrator thinks about	coming together and	explores ideas of tradition	
natural.	and they call t			wn, working with	to hold on.	her rebellious youth and	move forward together.	and modernity.	Previously worked in an
	, , , , , ,		_	er, now fragile,		freedom before she had a		,	agricultural college.
Brought up by his father	Father died wl	hen he was		behind him.	From 'Book of matches', a	child.	Published in a collection	2 nd generation Indian that	Autobiographical - an open
after mother died	7				series of autobiographical		of poems called 'Skirrid	emigrated after WW2.	letter of admiration for his
			Irish wri	ter, grew up on	poems which are short	Feminist writer.	Hill' which means	Family owned a corner	grandfather
'Your first game of	'They beckon	to me from		n. Now a writer –	enough to be told in the	Autobiographical poem.	divorced or separated	shop	g. a.r.a.
football, then, like a	the other bank			d in poem	time it takes for a match	Possibly informed by her			'I can only lie/ watching
satellite/wrenched from	them call, "see	•			to burn down.	mother's own memories	'The swans came and	'I run just one ov my	clouds and birds circle,/
its orbit, go drifting away.'	stream path is		'My fath	ner worked with a		and anecdotes.	stopped us/with a show	daddy's shops/from	feeling his heat, knowing/the
6. 2.0, 80 2	is not as hard			ough,/His	'The line still feeding out,	and ancodoces.	of tipping in unison'	9'o'clock to 9'o'clock/ and	slow pulse of his good heart'
	think'	, , ,		rs globed like a full	unreeling/years between	'The glamorous love		he vunt me not to have a	and the second s
			sail strui	•	us. Anchor. Kite.'	lasts/Where you sparkle		break /but ven nobody in,	
			5a 5ti di	0	and the second second	and waltz and laugh		I do di lock-'	
						before you were mine.'		. do di lock	
Alliteration	rony	Phonetic spe	llings	Third person	Themes	before you were fillife.	1	1	<u> </u>
	luxtaposition	Plosive	163		Romantic Love – Love's Philoso	nhy: Sannet 29: Parnhyria's L	over Farmer's Bride Singh so	angl Winter Swans When We	Two Parted
	_anguage	Rhetorical qu	lestion .		Family relationships – Walking			• .	
	Metaphor	Rhyme –	aestion		Distance – When we two parte	• •			
	Monologue	couplet/inte	rnal/half		•	u, somet 23, neutral rolles, f	aimei s bilue, walkilig Awdy	, ietters from Torksille, Eden	nock, Mother, any Distance,
	Vionologue Mood	Rhythm	may nan		Winter Swans. Parise and langing - Love's Philosophy, Parabyria's Lover, Sannet 20, Farmer's Pride, Follower, Reference were Mine, Singh Song				
•		Sibilance			Desire and longing – Love's Philosophy, Porphyria's Lover, Sonnet 29, Farmer's Bride, Follower, Before you were Mine, Singh Song			omgn oong	
•	Onomatopoeia	Simile							
	Oxymoron			1					
•	Personification	Stanza							Climbing my Crass dfath as
•	Sonnet	Verse			Nature – Love's Philosophy, Son			ille, Follower, Winter Swans, (Cilinbing my Grandfather.
Imagery	nagery Symbolism Rebellion – Singh Song!, Before you were Mine, Farmer's Bride								

Question	Key Skill	Top Tips/Useful Sentences	Layout/Text Type/Format	Purpose and Techniques/Tips
1	Choose 4 statements (4 marks)	Top Tips: Examiners like to trap. Read very carefully. They are counting on you misreading 1 or 2 words or skipping over something small. They often: • Use key information but changing one small detail • Combine information from 2 sentences • Focus on the meaning of a more complex word	Letter Address and date Formal mode of greeting—Dear sir/madam Effectively linked paragraphs Appropriate signing off—Yours sincerely	Explain Explain what you think about Be factual Use statistics Give a balanced view Use evidence
2	Use details from both extracts to write a summary (8 marks)	Useful Phrases: Text A/B describes Text A/B says Text A/B is about On the other hand However But	Speech Clear address to audience—Good morning ladies and gentlemen/fellow students Use of 1 st person—you, we Clear sign off—Thank you for listening	Advise/Instruct
3	How does the writer use language to (12 marks)	Useful phrases: One way the writer is through For example This shows/suggests/implies This creates the impression that The effect on the reader is	 Article Subheadings and strapline Introductory overview paragraph Effectively linked paragraphs Leaflet Clear and original title 	Argue Argue the case for or against Rhetorical questions Emotive language Counter arguments Statistics Triplets Imperatives Expert opinion
4	Compare how writers convey their different perspectives on (20 marks)	Useful phrases: One view the writer of text A/B One idea the writer has aboutis The writer thinks thatis The writer of text A/B has the opinion that However On the other hand In comparison	 Subheadings or boxes Bullet points Effectively linked paragraphs Essay Clear introduction Effectively linked paragraphs 	Persuade Persuade X that Imperatives Triplets Statistics Rhetorical Q Expert opinion Imperatives
5	Argue/Persuade/Advise/Explain (40 marks	See right column for writing ideas		Hyperbole

Structure Idea for Descriptive Writing

Paragraph 1- Weather/Environment: Describe the weather and the environment (around the main character—or use the picture) in order to give a sense of place. Use pathetic fallacy.

Paragraph 2- Location: Describe the setting in which the action takes place. **Zoom in** on a particular feature such as a park bench or a lamp-post and describe it in meticulous detail.

Paragraph 3- Main Character: Describe your main character using physiognomy and metaphorical language to describe their personality.

Paragraph 4- Feelings of main character through personification. Example: Fear stalked me. It was the predator and I was its prey.

Paragraph 5- The meeting: Have your character come across another and describe their interaction using sensory language. End on a piece of dialogue. The first and last piece of speech.

Purpose

- You are writing to describe, entertain and impress.
- show how impressively you can describe the picture in front of you
- show you can create imagery in the reader's mind through your use of the English language.

SPaG

- Vary sentence structure
- try beginning a sentence with an adverb or a verb
- use a semicolon to replace a conjunction like "and" or" but"

Example: I am going to the shops and I am going to buy some pears. I am going to the shops; I am going to buy some pears.

Example 2: Suddenly, there came a tapping.

Example 3: Running closer and closer to my target, I was almost with reach.

- Use paragraphing
- separating these based on changing focus or theme
- ensure you make your writing flow coherently.

Techniques to use

- **Simile** Example: He was as timid as an urban fox.
- Metaphor- Example: He was a night owl.
- Pathetic Fallacy- Example: The sky became cloudy and darkness fell.
- Personification-Example: The thorns gripped my shirt as I ran through.
- Impressive Vocabulary-Example: Guile, Radiant, Irksome, Serpentine.
- Noun, Adjective, Noun- Example: Blood red shoes
- Alliteration- Example: Colin can't catch!
- Sensory Language- Example: I could taste blood streaming from my lip.
- **Physiognomy**—Example: Scrooge's nose was pointed and his thin lips blue.

Sentence Starters

1 word sentence-- Breathless. I gulped for air and looked behind me...

Verb-Running quickly she...

Adverb—Darkly, the night sky...

Preposition—Down there, everything is...

Connective—However, his life...

Top Tips

- Avoid action—stay still and describe what's around you.
- Use structural features like: flashback, flash forward, character's thoughts
- Keep to one or two characters
- Keep dialogue short and small

Key Skill

Question

Top Tips and useful sentences

Question	Key Skill	Top Tips allu u	serui seriterices	Accuracy 135ues
1 (4 marks)	Identify 4 things about	Read the question pro Make sure your answe		Capital letters (names of place)
(4 marks)		Make sure you are ans		months, days, abbreviations,
2	Write about how language is used	Useful phrases:		mark etc.
(8 marks)		One way the writer i	s through	 Full stops not commas
		For example	This shows/suggests/implies	 Paragraphing (time, place, sp
		This creates the impre	ssion that	event)
		The effect on the read	er is The writer is symbolising	
3	Write about how structure is used	At the start the writer		Spelling
(8 marks)			er focusses on/ At the end, the writer	Homophones (there, their, their)
		The writer changes the		Words ending in -y (family—
		The writer zooms in/ z		
	Firely states the authorst in users are to a state or out	The writer repeats the		Double consonants (success,
4 (20 marks)	Evaluate the extract in response to a statement	I agree that the writer		Dance of Dunaturation
(=0)		At this part in the extra The text states	act, the reduct recis	Range of Punctuation
		This can be seen wher	٩	;:,?! <i>""</i>
		The writer is trying to.		
		This is effective because		Range of sentences
		The writer is successfu	l because	Short (1 word), complex, compound
5	Write a story or description	Think about your struc	ture: Plan!	Short (1 word), complex, compound
(40 marks)		Use a range of sentend	ces	Parts of a story:
		Interesting words		Complicating incident – Initial event/ques
		•	s: simile, personification etc.	Rising Action – adds tension/information
		Sensory descriptions		Climax – highest point of tension
				Resolution – questions answered/reader f
Technique	Definition	<u>I</u>	Example	· · · · · · · · · · · · · · · · · · ·
Simile	A figure of speech in which two unlike things are compared using	the words 'like' or 'as'	"Relief swept over me like a tidal wave"	Furt
Metaphor	The comparison of one thing to another without the use of 'like'		"The road was a ribbon of moonlight."	
Personification	When you give human qualities to an inanimate objects or emoti	ons	"Sadness gripped me and held me in a piti	iful embrace"
Noun	A word which names a thing, a person, a place, a state or a qualit		"The table", "My happiness"	
Verb	A word which expresses an action or a state of being		"Walk, run, swim, be"	
Adjective	A word which describes a noun		"Red, happy, thriving, tricky"	
Adverb	A word which describes a verb		"carefully, ominously, strangely, fast"	
Alliteration	Repetition of the initial consonant sound in more than one word		"The flag fluttered in the light of the full r	moon"
Onomatopoeia	A sound word		"The gurgle of the coffee, brewing in the	machine"
Exclamatory	A sentence using an exclamation mark—shows excitement or he	ightened emotion	"That happened to me too!" said Bruno d	elighted.
Declarative	A statement with no room for argument		"The train was horrible" said Shmuel	
Imperative	A command/order		"You have to wear one of these armbands	s" said Shmuel's mother.
Interrogative	A question (includes rhetorical questions)		"All of you?" asked Bruno "In one room?"	
Triplet	Pattern of 3		We went to school; my father mended wa	atches; my mother stayed at home
Repetition	Words or phrases repeated for effect		"There weren't any doors" said Shmuel. "	'There weren't any doors" insisted Shmuel.
Lists	4 or more ideas/items		He was a squeezing, wrenching, grasping,	scraping, clutching, covetous old sinner.
,				

Accuracy Issues

- Capital letters (names of places, titles, people, s, after full stop/question
- peaker, topic, sudden
- they're, to, too, two etc.)
- -families etc.)
- s, unnecessary etc.)

estion/idea r finds things out

irther vocab:

- Protagonist
- Antagonist
- Tension
- Evaluate
- First Person (I,Me)
- Second person (You)
- Third Person (They/he/Name)
- Flashback
- Narrator

Non-Fiction Writing

	Layouts/text typ	es/forma
<u>Letter</u>	 Address and date Formal mode of greeting—Dear sir/madam Effectively linked paragraphs Appropriate signing off—Yours sincerely Newspaper or magazine story—formal Clear and original title 	•
Speech (text only)	 Clear address to audience—Good morning ladies and gentlemen/fellow students Use of 1st person—you, we Clear sign off—Thank you for listening 	•
<u>Article</u>	 Subheadings and strapline Introductory overview paragraph Effectively linked paragraphs 	
<u>Leaflet (text</u> <u>only)</u>	 Clear and original title Subheadings or boxes Bullet points Effectively linked paragraphs 	
<u>Essay</u>	 Clear introduction Effectively linked paragraphs 	
	Writing Purposes Audience	

Sentence Starters

- A small minority of people think...
- Do you believe in...
- 85% of students say that...
- can be very enjoyable for some people..
- There are many things to consider when your child...
- I believe...
- Have you ever thought about...
- Take a moment to...
- Just think how...
- What do you value more...
- One of the most remarkable facts about...
- It's difficult to understand why...
- In my view...

	Writing Purposes	
<u>Explain</u>	Explain what you think about	
	Be factual	
	Use statistics	
	Give a balanced view	
	Use evidence	
	• 1 st or 3 rd person	
Instruct/advise	 Advise the reader of the best way 	
	Be factual	
	 Use present tense 	
	 Use connectives 	
	 Use technical terms 	
	• 2 nd person (you)	
	 Imperatives 	
<u>Argue</u>	 Argue the case for or against 	
	 Rhetorical questions 	
	 Emotive language 	
	 Counter arguments 	
	 Statistics 	
	 Triplets 	
	 Imperatives 	
	Expert opinion	
<u>Persuade</u>	 Persuade X that 	
	 Imperatives 	
	 Triplets 	
	 Statistics 	
	Rhetorical Q	
	Expert opinion	
	 Imperatives 	
	 Hyperbole 	

An audience your age:

- Common sayings
- References to modern culture
- Frequent direct address
- Humour

An older audience:

- Formal language
- Humour and modern culture—but restrained
- Avoid contractions (do not, can not instead of can't)

Marking Criteria

Content:

- Register is convincing
- Confident match to purpose
- Ambitious vocabulary
- Sustained use of linguistic devices

Organisation:

- Variety of sentence types and lengths
- Range of convincing ideas
- Fluently linked paragraphs

Technical Accuracy

- Wide range of punctuation
- Range of sentence forms for effect
- Consistent use of Standard English
- High level spelling accuracy
- Extensive ambitious use of vocabulary

Food Preparation & Nutrition Knowledge Organiser: Food Safety

You must be able to know the growth conditions for microorganisms and enzymes and the control of food spoilage. Know and understand that bacteria, yeasts and moulds are microorganisms. Explain that enzymes are biological catalysts usually made from proteins. Demonstrate the knowledge and understanding of the use of microorganisms in food production, including moulds in the production of blue cheese, yeast as a raising agent in bread. Know and understand the different sources of bacterial contamination. Know and understand the main types of bacteria that cause food poisoning. Demonstrate knowledge and understanding of the main sources and methods of control of different food poisoning bacteria types. Recognise the symptoms of food poisoning. Know and understand the food safety principles when buying and storing food. Know and understand temperature control and the danger zone temperatures.

Keywords

- 1. Bacteria
- 2. Microorganisms
- 3. Moulds
- 4. Enzymes
- 5. Temperature
- 6. Moisture
- 7. Time
- 8. Nutrients
- 9. pH level
- 10. Oxidation

Keywords

- 1. Starter culture
- 2. Probiotic
- 3. Pathogens
- 4. Food Poisoning
- 5. Contamination
- 6. Salmonella
- 7. Staphylococcus Aureus
- 8. Clostridium Perfingens
- 9. Clostridium Botulinum
- 10. Bacillus Cereus
- 11. Food Borne disease
- 12. E Coli
- 13. Listeria
- 14. Campylobacter
- 15. Norovirus

Quick Test

- 1. What are microorganisms?
- 2. What is the ideal temperature for bacterial growth?
- 3. What is the most important bacteria used in food manufacturing?
- 4. What are the two date marks you need to check when buying food?
- 5. What is the recommended temperature for chilled food?
- 6. What is the temperature range of the danger zone?
- 7. Explain the term cross contamination.
- 8. List four occasions during food preparation when you must wash your hands.

Keywords

- 1. Use by date
- 2. Best before date
- 3. Frozen Food
- 4. Chilled Food
- 5. High risk foods
- 6. Low risk foods
- 7. Danger zone
- 8. Hygiene

Key Points

- 1. Bacteria are found everywhere and need the right temperature, warmth, time, nutrients, pH level and oxygen to grow and multiply.
- 2. Microorganisms (bacteria) are used to make a wide range of food products.
- 3. Bacteria are used to make cheese, yogurt and bread.
- 4. The most important bacteria in food manufacturing are Lactobacillus species.
- 5. Bacterial contamination is the presence of harmful bacteria in our food, which can lead to food poisoning and illness.
- 6. As a food handler you must do everything possible to prevent this contamination.
- 7. What are the main symptoms of food poisoning?
- 8. Name three bacteria responsible for food poisoning?
- 9. Which groups of people are more at risk of food poisoning?
- 10. When handling food at any stage care must be taken to prevent contamination.
- 11. Everything possible must be done to control the conditions that allow bacteria to multiply causing food poisoning.

FRENCH YEAR 11 MODULE 4 : LE CONTRÔLE ORAL

At the end of Module 4, you will be completing your GCSE oral exam which is worth 25% of your final GCSE grade. You will need to complete a speaking exam which will be recorded formally and sent to the examiner. There are three tasks which MUST be completed in the following order; role play, picture based discussion, general conversation based on two themes.

To prepare for these three elements you will need to revise ALL of the module vocabulary in your year 10 AND year 11 booklets!

The speaking exam will last for 7-9 minutes for the foundation tier and 10-12 minutes for the higher tier. The preparation time allowed for both tiers is 12 minutes (you will be preparing your responses to tasks 1 and 2 in this time).

Task 1 : Role Play	Task 2 : Picture Based Discussion	Task 3 : General Conversation
You will be given a card on the day of the exam which will	You will be given a card on the day of the exam which will	This part of the exam is split into 2 parts.
contain a scenario based on any of the topics that you have	contain a picture and some prompts. It could be on any of the	
studied in year 10 or year 11. In your student resource	topics that you have studied in year 10 or year 11. In your	The first part of the conversation opens with the topic
booklet, you will find examples for you to practise and hints	student resource booklet, you will find examples for you to	chosen by you in advance. You will need to start the
and tips to get the top grades.	practise and hints and tips to get the top grades.	conversation by giving a small presentation on your chosen topic for up to one minute.
You will need to prepare your answers in the preparation	You will need to prepare your answers in the preparation time	
time before the exam starts. You may make notes but you	before the exam starts. You may make notes but you must	Your teacher will continue the conversation on the chosen
must note write in full sentences.	note write in full sentences.	topic by asking you questions which you must answer.
On your card you will see prompts telling you what you need	The first bullet point will relate directly to the picture, the	The second part of the conversation is based on a different
to say – you need to put these into full sentences.	remaining questions will go beyond the picture but will be	topic which is not prepared and you will informed of the
	based on the same topic.	topic on the day of the exam.
Where you see a ?, you will need to ask the examiner a		
question.	Foundation tier , you will be provided with a picture and 5	Throughout the conversation, you will need to:
Where you see a !, you will need to respond to an unknown	bullets in French to	answer questions freely and produce extended
question.	help in preparing for the 5 questions that you will be asked	sequences of speech
	during the assessment. You	develop conversations and discussions
Foundation tier , there are 5 bullet points. You will need to	are allowed to ask (in French) for questions to be repeated.	give and justify your own thoughts and opinions
ask 1 question and respond to 1 unpredictable question.		• refer to past, present and future events.
You are required to speak only in the present tense or may	Higher tier , you will be provided with a picture and 5 bullets in	
use the	French to help	You will choose your topic in advance and will therefore
conditional tense where it is more natural to do so, e.g. 'me	in preparing for the 5 questions that you will be asked during	have time to prepare and revise at home for the first part
gustaría.'	the assessment. The final bullet	of the conversation. The second topic, that you will know
	is marked by the symbol '!' to denote one unpredictable	on the day, could be on any of the topics that you have
Higher tier , there are 5 bullet points. You will need to ask 2	question. You are allowed to	studied in year 10 or year 11. In your student resource
questions and respond to 1 unpredictable question. You	ask (in French) for questions to be repeated.	booklet, you will find examples for you to practise and hints
need to speak in the present tense (or you may use the		and tips to get the top grades.
conditional) and respond to 1 question in the past tense.		

Paper two- Section B -The Economic World

KPI1- identify the key development indicators

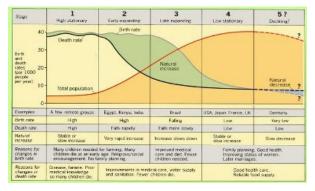
Employment type	The proportion of the population working in primary, secondary, tertiary and quaternary industries.
Gross Domestic	This is the total value of goods and services produced in a country per person,
Product per capita	per year.
Gross National	An average of gross national income per person, per year in US dollars.
Income per capita	
Infant mortality	The number of children who die before reaching 1 per 1000 babies born.
Literacy rate	The percentage of population over the age of 15 who can read and write.
Life expectancy	The average lifespan of someone born in that country.
Human	A number that uses life expectancy, education level and income per person.
Development Index (HDI)	

KPI2- describe global patterns of development

LICs	Poorest countries in the world. GNI per capita is low and most citizens have a low standard of living. Large majority found in Africa.			
NEEs	These countries are getting richer as their			
	economy is progressing from the primary			
	industry to the secondary industry.			
	Greater exports leads to better wages.			
	Large majority found in Asia.			
HICs	These countries are wealthy with a high			
	GNI per capita and standards of living.			
	These countries can spend money on			
	services. The majority are in the northern			
	hemisphere			

KPI3- describe and suggest reasons for the patterns shown in the DTM

The demographic transition model shows how a country's population changes as it becomes more developed.



KPI4- describe physical and human factors affecting uneven development

Natural Re	esources	Natural Hazards		
•	Fuel sources such as oil.	 Risk of tectonic hazards. 		
•	Minerals and metals for fuel.	 Benefits from volcanic material and floodwater. 		
•	Access to safe water.	 Frequent hazards undermines redevelopment. 		
Climate		Location/Terrain		
•	Reliability of rainfall to benefit	 Landlocked countries may find trade difficulties. 		
	farming.	 Mountainous terrain makes farming difficult. 		
•	Extreme climates limit industry and affects health.	Scenery attracts tourists.		

luman			
Aid		Trade	
	Aid can improve services such as schools, hospitals and roads. Too much reliance on aid might stop other trade links becoming established.		Countries that export more than they import have a trade surplus. This can improve the national economy. Trading goods and services is more profitable than raw materials.
Education		Health	
•	Educated people earn more money, meaning they also pay more taxes. This money can help develop the country in the future.		Lack of clean water and poor healthcare means a large number of people suffer from diseases. People who are ill cannot work so there is little contribution to the economy.
Politics		History	
•	Corruption in local and national governments.	•	Colonialism has helped Europe develop, but slowed down development in many other countries.

KPI5- describe the consequences for unequal development

	the confidence of the confiden			
Wealth	People in more developed countries have higher incomes than less developed countries.			
Health	Better healthcare means that people in more developed countries live longer than those in less developed countries.			
Migration	If nearby countries have higher levels of development or are secure, people will move to seek better opportunities and standard of living.			

KPI6- evaluate the techniques used to reduce unequal development

Microfinance Loans

This involves people in LICs receiving smalls loans from traditional banks.

- + Loans enable people to begin their own businesses
- It is not clear they can reduce poverty at a large scale.

Aid

This is given by one country to another as money or

- + Improve literacy rates, building dams, improving agriculture.
- Can be wasted by corrupt governments or they can become too reliant on aid.

Fair trade

This is a movement where farmers get a fair price for the goods produced.

- + Paid fairly so they can develop schools & health centres.
- -Only a tiny proportion of the extra money reaches producers.

Foreign-direct investment

This is when one country buys property or infrastructure in another country.

- + Leads to better access to finance, technology & expertise.
- Investment can come with strings attached that countries will need to comply with.

Debt Relief

This is when a country's debt is cancelled or interest rates are

- + Means more money can be spent on development.
- Locals might not always get a say. Some aid can be tied under condition from donor country.

Technology

Includes tools, machines and affordable equipment that improve quality of life.

- + Renewable energy is less expensive and polluting.
- Requires initial investment and skills in operating technology

KPI 7- evaluate the successes of toruism to improve dveleopment in an LIC

Name and Locate: Kenya is an LIC on the east coast of Africa. Why visit? it attracts tourists because of its tribal culture, safari wildlife, warm climate and beautiful unspoilt scenery. How did the Government try to increase tourist numbers?

- Visa fees for adults were cut by 50% in 2009 and scapped for under 16's.
- 2. Landing fees on the coast were cut to reduce air fairs.

Was is successful?

- ✓ Tourism increased from 0.9 million in 1995 to 1.8 million in 2011
- ✓ Toursim now contibutes to 12% of the GDP
- ✓ Nearky 600,000 people are employed in tourism
- ✓ 24 National Parks have been set up with entry fees paying to protect the environment and wildlife

However.....

- Only a small proportion of the money goes to locals. The rest is sent to HIC's overeas.
- Some Maasai tribes people were forced off their land
- Tourist vehicles damage the envrionment.

KPI 8- desscribe and evaluate economic development in an NEE (India case study)

History and Landscape

- With a population of 1.3 billion, India is the second most populous country in the world.
- A diverse and fertile country, which once included the lands of today's Bangladesh and Pakistan.
- Following the Second World War, weakened British forces retreated from India, and, in 1947, India declared independence and formed its own country.
- During the 1990s economic liberalization began, establishing an extensive urban middle class, and revolutionizing India into one of the fastest-growing economies in the world.

Impacts of development in India

Social	Economic	Envrionmental
Life expectancy has increased to	Many factory jobs are for	India has massively increased its
68 years in 2014	unskilled, young women on	greenhouse gas emissions as
Rapid expansion of hospitals in	minimum pay	manufacturing has grown
rural areas	India's middle class is growing with	Water pollution has happened
More people have moved to cities	more manager and well paid IT	from poor management of waste
causing rural – urban migration	jobs	There has been a threat to
Woman are more educated in		ecosystems and biodiversity as
urban areas and are getting		more land is needed for food,
married later and working		cities and industry

What type of aid does India receive?

Short term aid- UK sent £10 million, a rescue team and 1200 tents after the earth quake in 2001. Long term aid- up to 2015 India received £200 million from the UK to tackle poverty 'Top down' aid- Dams have been build to generate HEP but this only imporves the economy 'Bottom up' aid- WaterAid trains local people to maintain village handpumps.

KPI9- evaluate the impact of TNC on development

Coca-Cola	Advantages	Disadvantages
Social	Coca Cola offer training and education Coca Cola runs some community schemes in Africa and South East Asia	Villages reported that the little water left was undrinkable and when used for bathing it burned their eyes and lead to skin problems
Economic	Coca-Cola employs more than 25,000 people in India, indirectly, Coca-Cola has created an estimated 150,000 jobs in related industries.	Employees work long hours for very little pay. Profits are returned to the shareholders, very little of the money remains in the host countries
Environmental	Coca-cola drew around 510,000 litres of water each day from boreholes and open wells leadning to water shortages in many areas	
Solutions	Coca-Cola say they have replenished approximately 93% of the groundwater they use through the creation of rainwater harvesting structures, restoration of ponds and traditional water bodies and interventions focused on improving water use efficiency in agriculture Coca-cola have improved their water use efficiency by 14% since 2004 and state they are continuing to invest in new innovations and plant processes to help make even more	
	improvements	

KPI10- describe and evaluate the Economic development in the UK

UK in the Wider World

The UK has one of the largest economies in the world.

The UK has huge political, economic and cultural influences.

The UK is highly regarded for its fairness and tolerance.

The UK has global transport links i.e. Heathrow and the Eurostar.

Causes of Economic Change	Towards Post-Industrial
De-industrialisation and the decline of the UK's industrial base. Globalisation has meant many industries have moved overseas, where labour costs are lower. Government investing in supporting vital businesses.	The quaternary industry has increased, whilst secondary has decreased. Numbers in primary and tertiary industry has stayed the steady. Big increase in professional and technical jobs.

Bristol and Bath science park

Located on the Bristol ring road near Emersons green the Bristol and Bath science park is ideally situated for all commuters.

How is is sustanable?

2,200 meters of hedgerows and trees have been retained across the Park. Footpaths, cycle paths, electric car charging points and sheltered bus stops as well as electric and Brompton bikes available for tenant use.

200 square meters of solar panels aim to provide between 10-15% of the buildings energy requirements including a solar water heating system.

A biomass boiler supports energy requirements, using locally sourced wood

Change to a Rural Landscape - South Cambridgeshire

Cambridge is one of the fastest growing cities in the UK. Current population is 155,000 but will increase to 175,000 by 2026.

Social	Economic
Rising house prices have caused	Lack of affordable housing for local
tensions in villages.	first time buyers.
Villages are unpopulated during the	Sales of farmland has increased rural
day causing loss of identity.	unemployment.
Resentment towards poor migrant	Influx of poor migrants puts pressures
communities.	on local services.
Improvements to Transport	UK North/South Divide
A £15 billion 'Road Improvement	- Wages are lower in the North.
Strategy'. This will involve 10 new	- Wages are lower in the North.
<i>5.</i>	
roads and 1,600 extra lanes.	- Education is worse in the North.
£50 billion HS2 railway to improve	+ The government is aiming to support
connections between key UK cities.	a Northern Powerhouse project to
£18 billion on Heathrow's	resolve regional differences.
controversial third runway.	+ More devolving of powers to
UK has many large ports for	disadvantaged regions.
importing and exporting goods.	

Hair Module 4- Responding to a design brief

Key terms to help you with your coursework:

What is a design brief?	A set of instructions to help you understand what needs to be designed
Types of hair and beauty design briefs	Wedding, proms, Charity events, fashion shows, photo shoots, magazines, leaflets, characters for a film or show, scenes, settings.
What does analysing mean?	Examine (something) methodically and in detail, typically in order to explain and interpret it:
Investigating and analysing images	To examine an image in detail and analyse who would have been involved, what could have been on the design brief.

How do you think hair and beauty professionals begin to develop ideas around a design brief? Where would you look for inspiration?

Sources of information and developing design ideas.

- Books and magazines
- The internet
- TV and film
- The theatre
- Historical archives
- Paintings and drawings

Remember to make your design brief innovative, attractive, with a good use of images, text and accessories

Things to consider:

- Timescales
- Target audience
- Feasibility
- How could you present your ideas
- Types of materials and media needed
- The look and feel of your design brief
- Justification of ideas

Life stage	Age Range
Infancy	0-2 years
Early Childhood	3-8 years
Adolescence	9-18 years
Early Adulthood	19-45 years
Middle Adulthood	45-65 years
Later Adulthood	65+

Areas of Development	
Physical	This includes growth which means an increase in size, and motor development, which means being able to make movements. Two motor developments are Fine Motor and Gross Motor Skills. Fine Motor = the use of smaller muscles e.g. fingers. Gross motor = using larger muscles such as arms and legs.
Intellectual	The development of thinking abilities.
Emotional	This involves developing positive and negative feelings about everyday situations.
Social	This means developing the skills and routines that enable people to get along with each other.

Infancy 0-2 years

- Walk/ crawl/ reflexes / gross/ fine motor
- Talk
- Ask questions
- Thinking skills
- Positive and negative emotions
- Attachment / bonding
- Play/ learn to socialise

Adolescence 9-18 years

- Growth spurt
- Puberty
- Motor development
- Problem solving
- Learning more/ stress/ exams
- Mood swings self consciousness

Early Childhood 3-8 years

- Gross and fine motor skills
- Vocabulary increases
- Curiosity
- Problem solving
- Can control emotions
- Independent in some areas
- New social skills develop

Early/middle Adulthood 19-65+

- Growth in body fat
- Menopause
- Increase strength and stamina
- Intellectual skills increase
- Achievements / family/ marriage
- Sexual relationship

Later Adulthood 65+

- Shorter in height
- Reduced strength
- Thinking becomes less flexible
- Lonely/socially isolated
- Death/bereavement
- Weight loss
- Short term memory

Growth	An increase in physical size (GIPS)
Development	An increase in skills, emotions and abilities (DISEA)
Life Stage	A defined period of growth and development e.g. adolescence, childhood
Life Span	The time between a person's birth and death
Developmental	The ways in which people grow and develop tend to follow a
norms	pattern e.g. baby can sit unaided at 6 months, menopause for
	women (45-55 years)
Milestones	The expected growth and development in the life stages e.g.
	sitting unaided at 6 months, menopause for women (45-55 years)
Self esteem	How you value yourself
Self image	How you see yourself
Self concept	Both self esteem and self image combined
Norm for one's	The average for his/her age
age	

Influence on human growth and development:

- Depends on the genes we gain from our parents
- The lifestyle factors we choose e.g. diet, smoking, alcohol etc..
- Influence of the environment
- Relationships and family
- Income
- Culture
- Religion



Expected and unexpected

	expected	unexpected	
starting a new school	1		
physical injury or illness		1	
starting work	1		
the death of a friend or relative		1	
going through puberty	1		
getting married	4		
the birth of a brother or sister	1		

	expected	unexpected
bankruptcy		√
divorce or the breakdown of a serious relationship		√
going through the menopause	4	
redundancy		1
unemployment		1
retirement	1	
winning the lottery		1

	Professional or Formal		
1.	GP	Prescribe medication, refer to hospital and further support, talk	
		through symptoms, offer advice, give encouragement	
2.	District nurse	Give medication (NOT prescribe), change dressings, give injections,	
		give encouragement, talk to patient, refer patient to other	
		professional support if needed	
3.	Social Worker	Offer support to a later adult if unable to look after him/herself in own	
		house	
		Check that children are well cared for and safe	
4.	Counsellor	Talk through problems, offer advice, can refer to other support	
5.	Dietician	To talk through problems, to help set up a diet plan (having analysed	
		old eating routine), monitor new diet, exercise plan alongside	
6.	Physiotherapist	To help patient move limbs after an operation, offer support and	
		encouragement, exercises at home to improve mobility	
7.	Pharmacist	To give advice for minor illnesses, to offer support and	
		encouragement, to encourage a patient to refer themselves to	
		further professional support	
8.	Home care	To help a patient get in/out of bed, to help wash/bathe, to help with	
	assistant	food and cooking, to help with daily jobs, to help with cleaning	

	Informal
1. Partner	Talk to person, refer person to professional support and take person out to make them feel better. Encourage them to stop smoking and exercise etc
2. Family (children)	Behave to take pressure off parent, help with jobs around house, work hard in school to take pressure off parents, take a part-time job if old enough
3. Family (adults)	Take person out, cook for them, help out with jobs around house, refer person to professional support
4. Neighbour	Talk to person, help with shopping, take person to hospital/shops by car, cook for them, refer person to professional support
5. Work colleagues	Talk to person, help with shopping, take person to hospital/shops by car, cook for them, refer person to professional support

	Voluntary			
1.	Priest/vicar	Talk to person, pray for person, seek professional support for person if		
		necessary, visit person		
2.	Citizens	Talk to person and offer legal advice		
	Advice			
	Bureau			
3.	Childline	Talk to child and encourage child to seek support where necessary		

This option focuses in depth on selected themes and issues relating to the history of England during the Elizabethan Age, from 1558 to 1603. Candidates will be required to consider the major influences on political and social life during the period as well as the issue of religious controversy. Candidates should develop an awareness of how aspects of life in this period have been represented and interpreted, and how they have generated wider historical debate. They should also address the key questions in each topic area using a range of historical sources. The required content in italics shows which key features and characteristics of the period must be studied.

Key questions	Required Content
Elizabethan government How successful was the government of Elizabeth I?	The coronation and popularity of Elizabeth; Royal Court, Privy Council and councillors; local government; the role of Parliament; taxation and freedom of speech
Lifestyles of rich and poor How did life differ for the rich and poor in Elizabethan times?	Contrasting lifestyles of rich and poor; homes and fashion; causes of poverty; issue of unemployment and vagrancy; government legislation including the 1601 Poor Law
Popular entertainment What were the most popular types of entertainment in Elizabethan times?	The importance of popular entertainment; cruel sports; entertainment enjoyed by the rich; the Elizabethan theatre; design, plays; attitudes towards the theatre
The problem of religion How successfully did Elizabeth deal with the problem of religion?	Religious problems in 1559; aims of the Religious Settlement; the 'Middle Way', Acts of Supremacy and Uniformity; reactions to the Settlement
The Catholic threat Why were the Catholics such a serious threat to Elizabeth?	Early toleration; excommunication in 1570; recusancy; rebellion of Northern Earls; Catholic Plots – Ridolfi, Throckmorton, Babington; role of Mary, Queen of Scots
The Spanish Armada How much of a threat was the Spanish Armada?	Reasons for the Armada; war in the Netherlands; course of the Armada – events in the Channel, Calais, 'fireships' and return to Spain; results of the Armada
The Puritan threat Why did the Puritans become an increasing threat during Elizabeth's reign?	Puritanism; challenge to the Settlement; Puritan opposition in Parliament and Privy Council; measures taken to deal with the Puritan challenge

ELIZABETH	1: Elizabethan Governm	ent			KPI 2 EI	izabeth's Role			
TIMELINE 1533	Flizabeth bern to Hen	ary VIII and Anne Boleyn	Elizabeth's coronation On 15 th January 1559 Elizabet	h During the re	eth's popularity rign of Mary I over 300				Royal progresses 10 weeks each summer,
1547	Henry VIII dies; Edwa	· · · · · · · · · · · · · · · · · · ·	was crowned in Westminster Abbey. She had travelled throu	gh stake, includi	nad been burnt at the ng Archbishop Thomas	project an image of authority. After catchin in 1562, Elizabeth's w	g small pox	touring t	th went on royal progress, the countryside and staying
1553	Edward VI dies; Mary		London on a ceremonial barge a took part in a coronation	would be a fa	any hoped Elizabeth irer and more popular	but the portraits did	not show	was a	portant noble families. This method of propaganda to
1554	Wyatt's rebellion, Eli	zabeth sent to live in Oxfordshire	procession dressed in her fine coronation robes. The coronation	on in her appeara	zabeth took great care ance, hoping to projec	t propaganda, creating	n image of	her subje	that Elizabeth was seen by ects, though she never went
1558	Mary I dies; Elizabeth	I becomes queen	was designed to show off the power of the monarch.	an image of	majesty and power.	a powerful, ageless	nonarcn.	to	the North or Wales.
Jan 1559	Elizabeth's coronatio	on			KPI 3 Th	e Royal Court			
1559	First Parliament mee	ts for three months	The Royal Court			Patronage	Th		Factions
1562	Elizabeth catches sm	all pox	The Royal Court was the grou surrounded the Queen. This	included Privy	through a system o	d the loyalty of her advisers of patronage. Nobles came t	William	Cecil and I	system created rivalries. Robert Dudley, led different
1587	Elizabeth stops Parlia	ment discussing religion	Councillors, advisors, servant waiting. The Royal Court was			being given an important robles were supportive becaus		ns, divided by religious belief and ideas but foreign policy. In her later years,	
1601	Robert Devereux, Ear	l of Essex, executed	accompanied Elizabeth o	on progress.	they knew that po	er depended on the Queen.		Elizabeth learnt to control factions.	
KPI1 Elizabe	eth's life before becomi	ng queen			KPI 4 The	Privy Council			
Henry fell in mother, An order to ma wife, Cathe needed t	Henry VIII 1509-1547 Henry fell in love with Elizabeth's mother, Anne Boleyn, in 1527. In order to marry her, and divorce his wife, Catherine of Aragon, Henry needed the permission of the Pope, but this was refused. When Anne became pregnant in 1533, Henry broke away from the Catholic church and granted himself a divorce. However, when Elizabeth was just two, Henry heard that Anne was unfaithful to		The Privy Council was a group of advisers appointed by the Queen. They met regularly to advise the Queen on policy and to watch over the day-	advisers appointed by the een. They met regularly to divise the Queen on policy and appointed Secretary of 1558. Cecil managed Parlian government finances for over		ng Mary's reign ary of State in Parliament and Parliament and prover 40 years. Previously an adviser to Mary moderate Protestant. Respons organising the Royal Progress. Lord Chancellor in 1587 until co		but a Military commander who led attacks ible for on Spain and the Netherlands. Often Became argued with Elizabeth and was	
Anne beca Henry b Catholic himself a di Elizabeth			to-day running of government. Officers of the Privy Council were amongst the most powerful people in England. They included:	A Puritan and riv friendship with rumours of an af	Dudley ral of Cecil. Close Elizabeth led to fair. Commanded he Netherlands in imited success.	Sir Francis Walsing A radical Puritan. Well-e Cambridge. Ran Elizabet service and organised sp across Europe. Uncovere murder Elizabeth in	ducated at h's secret n network I a plot to	sated at secret Walsingham in 1590. Responsible for overseeing the succession of James plot to VI of Scotland to the English throne	
him and	d had her executed.	sent away to Oxfordshire.			KPI 5 Loc	al Government			
Core	Catholic Christian who ronation Ceremony cro County A part of Engl		The Lord Lieutenant kept the queen informed about local affairs. Supervised the Justices of the Peace. One per county.	responsible for l	egal oversaw law aking as poor relie	and order as well an un f. Usually wealthy JP	arish Consta Daid post. Hel With their du Isually a farm	lped the uties.	The overseer of the poor helped JPs by collecting the poor rate and giving money to the most needy.
	Faction A group of po				KPI 6	Parliament			
Pat Pro	Pope Head of the Cotestant Christian who Puritan An extreme P	d body set up to debate new laws ds/jobs in return for loyalty Catholic Church o rejects the Pope rotestant against Mary I	Parliament was divided into the House of Lords (100 Lords and Bishops) and the House of Commons (450 MPs elected by wealthy landowners). Elizabeth called Parliament 13 times between 1558 and 1601. Elizabeth called Parliament when she needed: - Money for war. Only Parliament could raise taxes. - To pass an act of parliament to make a law between 1558 and 1601. Although MPs had freedom of speech in Elizabeth often stopped them discussing policy and religion. However, Elizabeth called Parliament to make a law needed Parliament to raise money.					ped them discussing foreign on. However, Elizabeth of debt from Mary and	

EL	IZABETH 2: Rich and Poor									
KPI 7 Social Structure										
ch	The Monarch Used patronage to keep nobles loyal									
The Rich	Nobles and Lords About 50 families owning 17% of cultivated land. Each family had an income of up to £6000 per year.									
	Gentry Smaller landowners 10,000 families) with an income of £200 per year.									
The Gentry	Wealthy Merchants and Professionals Businessmen (30,000 families) and middle-class professionals including lawyers and teachers.									
_	Yeomen and Tenant Farmers Farmers who owned or rented a small amount of land (10-30 acres). Around 100,000 families.									
asses	Skilled Artisans Men with a skill or trade									
Ş	Landless Unskilled Labourers									

The Lower

The rich became richer during Elizabeth's reign. They had gained more land during the dissolution of the monasteries and

exploited it by renting it out, sheep farming, or mining. KPI 8 Homes

The Rich

Many landowners used their wealth to build grand mansion houses. New building styles, such as chimneys decorated with a twisted pattern of bricks, transformed homes from defensive structures into fashionable homes. The new homes were designed to separate rich families from their servants, who lived and worked in a separate servants' wing. The servants' wing and the family wing were separated by the Great Hall, where people ate and worked, and the Long Gallery, which was used for music and dance and decorated with portraits. Also, whereas previously gardens had been for providing food, the new mansions had landscaped gardens for walking. Examples include Longleat Hall (Wiltshire) and Hardwick Hall (Derbyshire). Historians have called this period 'The Great Rebuilding'.

KPI 9 Fashion

Nobles dressed to show off their status. Men wore doublets made of the finest materials, such as silk and velvet. Embroidered ierkins were also worn, along with stiffened ruffs. When outdoors, noblemen wore satin cloaks, hats, and a sword. Women wore sleeveless satin gowns over petticoats with wooden hoops sewn into them to keep the gown splayed out. Jewellery such as bracelets, earrings, and rings helped to project status.

KPI 10 Education

Sons were tutored at home, mostly being educated in the classics. Boys learnt the fashionable sports of hunting and hawking. Daughters were taught how to run a large house.

The gentry class attempted to copy the new styles of the rich, although on a less grand scale.

The Gentry

KPI 8 Homes

The wealthier gentry rented out a large part of their land and so had a source of regular income to improve their homes. They copied the trend to develop medieval defensive structures to fashionable homes. Ceilings were inserted and tapestries hung on the walls. Upper floors were added which were used as bedrooms. The former great hall was converted into a private dining room and servants had to live and work in back rooms.

KPI 9 Fashion

The gentry followed the fashions of the rich. However, they often lacked the fine materials or iewellery that the wealthy wore. Fashion was seen as an important way to display social status.

KPI 10 Education

The sons of the gentry often attended grammar schools. The number of grammar schools increased in Elizabeth's reign and there were around 360 grammar schools by 1601. The school day lasted from 7am to 5pm and boys learnt Greek and Latin. Some then progressed to Oxford and Cambridge universities whilst others went to study law in London. Boys were taught to be 'perfect' gentlemen and were expected to take part in new pastimes such as tennis.

Farmers and labourers worked long hours, from 5am to 5pm. Life expectancy was low and only a few children lived beyond

5, with many dying from diseases such as small pox. **KPI 8 Homes**

The Lower Classes

A poor man's cottage usually had just one room, often shared with animals. It had an earth floor and walls made of timber and mud. The room was furnished with just a bed, a table, and some stools. Those who earnt a little money could add separate bedrooms, brick chimneys, and glazed windows.

KPI 9 Fashion

Men wore leather shoes, knitted woollen socks, leather breeches, a jerkin and waistcoat made of fustian, and a felt hat. Women wore a petticoat, mantle, doublet, ruffs, and a cap on the head. Members of the lower classes had very few changes of clothes due to their poverty.

KPI 10 Education and Leisure

The lower classes received little or no education. The poor could not generally afford to send their children to school, but the few who did attend were taught basic reading and writing in English. What little leisure time they had was spent in the inn or tavern, gambling in cock or bear baiting rings, or playing cards or dice. Fishing and archery, as well as watching plays performed by strolling players, were common pastimes.

Apprenticeship Baiting Breeches Compulsory Cultivated land Dissolution of the monasteries Doublets Fustian Grammar schools Hawking House of Correction Jerkin Mansion Patronage Petticoats Poor rate Professionals Satin Strolling players Vagrants

Working unpaid whilst you learn a trade Fighting animals for entertainment Short trousers Something you have to do Land that could be used for farming Henry VIII shut down the monasteries, which used to care for poor A short iacket Thick, coarse fabric Schools teaching Greek and Latin Hunting with birds of prey Type of prison where vagrants were forced to work Sleeveless iacket Large, grand house Giving jobs in return for loyalty Skirts worn under dresses Tax paid to give money to the poor Teachers, lawyers, doctors, etc A fine material, used for posh clothes A wandering group of actors Unemployed and homeless people

KPI 11 Poverty in Elizabethan Times

Seasonal workers, unemployed during

certain times of year. Very poor: 30%

of the entire population lived on the

edge of starvation.

Poverty increased during Elizabeth's reign, with a sharp increase in the number of vagrants and unemployed for a number of reasons:

- 1. Population increased from 2.7m in 1540s to 4.1m in 1601
- Bad harvests in 1556 and 1596
- 3. This led to inflation and wages did not rise as fast
- Dissolution of the monasteries meant less charity
- 5. Wars with France and Spain caused an increase in taxes The government divided the poor into two categories:
- 'impotent poor' unable to work and in need of relief
- 2. 'able-bodied poor' able to work but couldn't/wouldn't find it, needed encouragement/force to stop vagrancy

There were about 10,000 vagrants wandering the countryside, including Abraham-men (pretended to be man) and Hookers (who used hooked sticks to steal from houses).

KPI 12 Government attempts to deal with poverty

1563 Statute of Artificers: Compulsory for boys to serve 7-year apprenticeship + maximum wage limit. Impact: Reduced vagrancy, tied men to one area

1572 Vagabonds Act: Penalties for vagrants, local people to pay poor rate, Overseers of the Poor appointed to help JPs. Impact: Harsh penalties but nothing to remove causes of poverty

1576 Act for the Relief of the Poor: JPs provide work and build Houses of Correction for those who refused. Impact: Help for able-bodied but nothing to remove causes of poverty

1598 Act for the Relief of the Poor: 4 Overseers per parish to manage compulsory poor rate + poor children to learn craft. Impact: Provided jobs, helped those in need but temporary

1598 Act for the Punishment of Rogues: JPs set up Houses of Correction for vagabonds, begging punished by whipping. Impact: Contained vagrancy and reduced social unrest

1601 Act for the Relief of the Poor: Made the 1598 Relief of Poor permanent. Impact: Government shows responsibility towards the poor and set up framework to deal with poverty

ELIZABE	TH 3: Popu	ular Entertainment						
1572	Ban on s	Ban on strolling players without licence						
1576	James B	urbage opens The Theatre						
1583	The Que	en's Men set up						
1585	Queen st	ops MPs banning bear-baiting						
1589	Marlowe	writes Doctor Faustus						
1594	The Lord	The Lord Chamberlain's Men set up						
1595	Shakespeare writes Romeo and Juliet							
1598	Edward /	Alleyne retires from acting						
1599	The Glob	pe Theatre opens						
1601	Elizabet	h watches Twelfth Night						
C	thorities omedies el sports Gallery Gavotte Inns Licence	The government Funny humorous plays Betting of fighting animals Covered part of the theatre A popular dance Pubs Permission from government						
Lord Royal official in charge of the								

Chamberlain

Professional

Playwrights

Slow paven

Tragedies

James Burbage

Strolling players

The government
Funny humorous plays
Betting of fighting animals
Covered part of the theatre
A popular dance
Pubs
Permission from government
Royal official in charge of the
royal household
Actor who built first theatre
People paid for their job
People who write plays
A popular dance
A wandering group of actors
Sad, dramatic plays

KPI 13 Cruel Sports

Cruel sports or 'blood sports' were watched by both rich and poor and attracted large audiences, many of whom placed bets on the fights.

Bear- and Bull-baiting
Bear-baiting involved dogs attacking
a chained bear in a large arena.
Spectators could bet on which dog
would survive the longest. The most
popular arena was the 'Bear Garden'
in London, which could sit over 1000
people. The Queen enjoyed bearbaiting and stopped MPs from
banning it in 1585. A bull was often
used in place of a bear.

Cockfighting

Cockfighting involved spectators betting on a fight between two cockerels. Most towns had a cockfighting pit.

KPI 15 Elizabethan Actors

Professional actors were expected to play multiple parts, sing, dance, and play musical instruments. Women were not allowed to act so men played female parts.

Richard Burbage

Son of theatre-builder James Burbage. A tragic actor, he played leading roles in many of Shakespeare's plays.

Edward Alleyne

A tragic actor who played leading roles in Marlowe's plays, including Dr Faustus. Retired at the height of his fame in 1598.

Thomas Pope

A member of The Lord Chamberlain's Men. A great comedian and acrobat who worked closely with Shakespeare.

KPI 14 Entertainment enjoyed by the rich

Hunting

Wealthy nobles had their own deer parks and deer hunting on horseback was very popular. Great hunt picnics were often arranged.

Hawking

Hawking involved training a hawk to kill rabbits and pigeons and then return. The upper classes were the only people allowed to breed hawks. The poor used kestrels.

Archery

Men over 24 were expected to practice archery on a Sunday afternoon using a long bow or crossbow.

Dancing

The rich employed musicians to play foreign dance tunes such as the slow paven or gavotte.

Ball Games

Tennis became very popular amongst the rich, played with either a racket or hand. The lower classes played a popular rough game: football. There was no pitch and no limit on the number of players. Fights and deaths were common.

KPI 15 Elizabethan Playwrights

The building of more theatres required new plays to be written. Elizabeth's reign has come to be seen as a 'Golden Age' of English drama.

William Shakespeare

The most important playwright of Elizabeth's reign. He wrote at least 37 plays in a variety of styles: comedies, tragedies, and historical dramas. Shakespeare's plays were popular with ordinary people and with the Queen. His most popular plays were Romeo and Juliet (1595), Hamlet (1599), and Twelfth Night (1601).

Christopher Marlowe

Marlowe played a leading role in the development of the 'tragedy' play. His most famous play was *Doctor* Faustus (1589). In 1593 Marlowe was stabbed to death in a pub brawl.

Ben Jonson

Jonson was an important figure in the development of comedic plays. His most famous play was *Every Man in his Humour* (1598).

KPI 15 Development of the Elizabethan Theatre

There were no theatres in England in 1558. By 1603, Elizabeth's death, there were theatres across the country.

Bands of Strolling Players

Before Elizabeth's reign, groups of actors toured the country, performing in inns and market squares. Rich families sometimes had private showings at home. A common theme was the adventures of Robin Hood because it showed the poor triumphing over the rich.

Formation of Theatre Companies

The authorities feared strolling players spreading popular unrest and that large gatherings at plays spread disease. In 1572 strolling players without a licence from the Lord Chamberlain were banned. This led to the formation of more organised theatre companies such as The Queen's Men (1583) and The Lord Chamberlain's Men (1594).

Building the First Theatres

As plays became popular, inns became too small to stage them. In 1576 James Burbage, an actor, built the first theatre, called The Theatre, in London. Other theatres followed, including the Globe Theatre in 1599. Theatres were built just outside London because of worries about public health.

Theatre Design

Theatres were round with an open space in the centre containing a raised stage. The back of the stage was finely painted but apart from that there was no set. To the audience, the stage mirrored the universe: beneath the stage, through a trap door, was hell; the stage was the real world; and above the stage was a canopy representing heaven. There were no lights so plays were in the afternoon. Prices were low so the poor could afford to stand in the centre; a few pennies more could buy a seat in the gallery, under cover.

Support for the theatre

Elizabeth was a lover of the theatre and enjoyed the plays of Marlowe and Shakespeare, watching *Twelfth Night* in 1601.

The theatre was also popular because playwrights produced gripping dramas and colourful characters.

The authorities also used plays as propaganda. The Alarum for London, for example, showed Catholic Spanish soldiers killed Protestants and was designed to encourage anti-Spanish feeling during times of war.

Opposition to the Theatre

The authorities opposed the theatre because it attracted large crowds. Large crowds meant crime and the possibility of unrest. As a result, they objected to theatres in the city centre.

The Puritans - a growing religious group - also opposed the theatre, considering it to be the work of the devil. They wanted plays to be banned because they distracted people from living simple, pure religious lives. They thought actors were villains.

ELIZABE	ELIZABETH 4: The Problem of Religion							
1559	Act of S	Act of Supremacy and Act of Uniformity						
1559	Royal In	junctions						
1563	Foxe's E	Foxe's Book of Martyrs published						
1563	Council	Council of Trent ends						
1563	Thirty-n	Thirty-nine Articles						
1566	Vestme	Vestments Crisis						
1571	Catholic Ridolfi Plot against Elizabeth							
Archbick	on of	Loador of the Church in						

Archbishop of Canterbury Authority Bishop Calvin Cardinal Catherine Parr Catholic Clergy Communion Compromise Council of Trent Doctrine Episcopacy Excommunicate Foxe's Book of Martyrs Injunctions JPs Latin Matthew Parker MPs Parliament Praver Book Protestant Puritan Pope Recusants

Reform

Restored

Surplice

Ridolfi Plot

Vestments

Via Media

Transubstantiation

Leader of the Church in England Power Important position in Church Protestant thinker Important position in Church Henry VIII's sixth wife Christian who follows the Pope Anvone who works for Church Important Christian service To meet in the middle Catholic meeting Religious belief Rule by the bishops Banish from Catholic Church Book detailing gory deaths of Protestants under Mary I Things you have to do Justices of the Peace Language of Catholics Eliza's Archbishop of Cantab Members of Parliament Body debating new laws What is read out in church Christian who rejects Pope Extreme Protestant Head of the Catholic Church People who refused to go to Church Protestant change Brought back Catholic attack on Elizabeth White linen robe Key Catholic belief Priests' traditional clothes Latin for 'Middle Way'

KPI 16 Religious Beliefs in England

CATHOLIC 1 Pope head of church 2 Cardinals and bishops help lead the church 3 Bible and services in Latin 4 Highly decorated churches and priests wear vestments 5 Priests should not marry 6 Transubstantiation: during communion the bread and wine turned into the bread

PROTESTANT 1 Queen head of church 2 Archbishops and bishops help lead the church 3 Bible and services should be in English 4 Little decoration of churches and no vestments 5 Priests should be allowed to marry 7 Did not believe in transubstantiation, but thought bread and wine helped remember Christ's suffering

PURITAN

1 There should be no head of the church 2 Churchgoers should elect committees to run the church 3 Church services should be simple and easy to understand 4 No decoration of churches or

vestments

5 No

transubstantiation

KPI 17 Religious Policy in England before 1558

Henry VIII

- Ended 1000 years of Catholicism in England by making himself head of the Church in England

- Introduced an English Bible but didn't change church services

- Remained a Catholic himself but many

Protestants lived in

England

and body of Christ

Edward VI
- Influenced by
Protestant advisors
- Introduced a new
Protestant Prayer
Book in 1549
- Required church
services to be in
English, not Latin
- All images in
churches torn down
- Allowed priests to
marry

Mary I - Restored the authority of the pope as head of the church - Required church services to be in Latin again - Introduced Catholic doctrine

 Separated priests from their wives
 Burnt Protestants who refused to become Catholic

KPI 18 Factors for Elizabeth to consider

Personal Beliefs: Brought up Protestant by Matthew Parker and Catherine Parr. However, liked decorations in churches and opposed priests marrying. Wanted a compromise settlement that could unite her people. France: Ruled by Catholic Francis II and his wife, Mary Stuart of Scotland, who many Catholics considered to be the true queen of England. Spain: King Philip II was a strong Catholic and hated Protestantism. Scotland: Ruled by Mary of Guise, the mother of Mary Stuart. Many Scotlish nobles were firm Protestants and didn't want more Catholicism. The Pope: Might excommunicate Elizabeth if she rejected Catholicism which would mean that the English people might not obey her in the future The English People: Lots of MPs were Protestant but most people were quite Catholic as were many of Elizabeth's powerful nobles

KPI 19 Elizabeth's Religious Settlement

In 1559, Elizabeth presented her religious settlement to Parliament. She adopted a via media or 'middle way' which created a church with both Protestant and Catholic practices, rejecting Puritanism. After four months of discussion, Parliament passed two important acts:

Act of Supremacy 1559

1 Elizabeth replaced the Pope as head of the Church becoming 'Supreme Governor of the Church' 2 All important judges, clergy, and MPs had to swear oath of loyalty accepting Elizabeth's title 3 Bishops would help Elizabeth govern the new church

Act of Uniformity 1559

The Act of Uniformity had some elements of Protestant belief: 1 Edward VI's Protestant Prayer Book to be used in all services

2 The Bible in English 3 Rejection of Transubstantiation 4 Clergy were allowed to marry But it also kept some Catholic practices:

5 Churches were allowed to be decorated 6 Priests had to wear vestments including the surplice In addition, recusants had to pay a fine of 1 shilling every time they missed church.
The settlement was confirmed in 1563 with the Thirty-nine Articles, which rejected Catholicism.

> Elizabeth also put in place measures to enforce her settlement: Royal Injunctions 1559

The Royal Injunctions ordered the clergy to condemn Catholicism, report recusants to JPs, ensure that all churches had an English Bible, to wear vestments including the surplice

The Visitations

Elizabeth appointed 125 commissioners to make sure priests were enforcing the settlements.

Over 400 clergy were sacked between 1559 and 1564, many of them Catholics.

The Episcopacy - the role of the bishops

Elizabeth favoured the use of bishops and rejected the model set up by Calvin which replaced bishops with elected ministers. Elizabeth's changes caused Catholic bishops to resign but many of the Protestants who replaced them held Calvinist views and wanted further reform.

KPI 20 Reactions to the Settlement

At Home

In the 1560s, most people accepted the new church, for example:

- The Archbishop of Canterbury Matthew Parker was moderate and respected
- Less than 3% of clergy refused to swear loyalty to Elizabeth
- Protestant books such as Foxe's Book of Martyrs (1563) showed how bad things had been under Mary, encouraging support for Elizabeth

However, later in Elizabeth's reign more opposition emerged, for example:

- During the Vestments Crisis in 1566, 37 Puritan priest were dismissed because they refused to wear vestments
- During the 1570s and 1580s, Catholics began to plot against Elizabeth, such as the 1571 Ridolfi Plot

Abroad

In the 1560s, foreign reaction was very limited.

- A civil war in France meant that Philip and Mary showed little interest
- Philip of Spain wanted good relations with England so hoped the settlement wouldn't last
- The Pope also kept quiet, hoping the changes would be overturned and Catholicism restored

However, a meeting of leading Catholics at the Council of Trent ending in 1563 led to calls for the excommunication of Elizabeth and from the 1570s both the Pope and Spain were involved in plots to overthrow Elizabeth.

ELIZABE	TH 5: The Catholic Threat	KPI 21 Early Toleration		KPI 22 Rec	cusancy	,	KPI 26 Mary, (Queen of Scots	
1559	Elizabeth's religious settlement	Elizabeth's 1559 religious	I			t by refusing to attend church.		evout Catholic, Mary posed a	
1568	Mary, Queen of Scots arrives in England	settlement was tolerant towards Catholics because	.	The main recusan			significant threat to Elizabeth.		
1568	Seminary college set up in Doaui	- Most of the population w	The Semi	nary Priests: In 1568, Willia ain Catholic priests to returr		Mary sent to France	Mary returns to Scotland		
1569	Rebellion of the Northern Earls	still Catholic - Catholic powers like	Jesuits: Jesui	ts' main aim was to destroy	Protest	antism and they were willing to	Mary's father died when she was a few days old and	In 1561, Mary returned to Scotland. However, in her	
1570	Pope issues Papal Bull	France and Spain might	roject Elizah			0 and encouraged Catholics to mous Jesuit, was tortured and	she was crowned Queen of Scotland, advised by her	absence, Protestant nobles had rebelled against her	
1571	Treason Act	intervene if she was stric - She worried that powerfo	ul	executed i			mother. In 1548 she was	mother and, after a French	
1571	The Ridolfi Plot	Catholic nobles would rebo However, Catholic	I	Elizabeth's response to re		y grew stricter: nverting people now treason	sent to be educated as a Catholic in France. She	army failed to defeat them, Mary had to go along	
		opposition forced her to	1585: All .	Jesuits and Seminary Priests	must le	ave the country or be killed	married King Francis II of	with their rule, following a	
1581	Edward Campion executed	become stricter.	1591: Catholic	s forbidden from gathering o	or movin	ng more than 5 miles from home	France but he died in 1560.	Protestant policy.	
1581	Recusancy fine increased to £20	KPI 23 The Reb	pellion of the Northe	ern Earls, 1569	KP	Pl 24 Excommunication, 1570	Mary and Bothwell	Mary and Darnley	
1583	The Throckmorton Plot	Causes	Events	Reasons for Failure	_	The Papal Bull	In 1567, Darnley was found dead and Bothwell was	Mary married, Lord Darnley in 1565 but the marriage	
1585	All Jesuits required to leave England		In Nov 1569, 4,600 ebels marched into	Poor leadership: the rebel leaders lacked a	Рор	pe Pius V issued a Papal Bull in February 1570 which	accused of his murder. Three months later.	was not happy. When Darnley fell ill, Mary nursed	
1586	The Babington Plot	heir. Catholic nobles the Earl of	Durham and held mass in the			communicated Elizabeth and ed upon all Catholics to remove	Bothwell was found not	him although she had a new	
1587	Mary, Queen of Scots executed	Northumberland and	cathedral. They			r. This provided an excuse for	guilty and married Mary.	lover: the Earl of Bothwell.	
1591	Catholics forbidden from gathering	the Earl of r Westmoreland	marched south but fled from the	, , , , ,		bellion and foreign invasion.	Mary arrives in England Mary's marriage angered	Elizabeth's options Mary's arrival posed several	
Cor Counci Death \	Durham City in the North of England Earl Type of powerful noble unicate Banish from Catholic Church	wastmoretand wanted to replace her with Mary, Queen of Scots, who they planned to marry to the Duke of Norfolk. When Elizabeth heard of the scheme and summoned the earls to London, they refused and rebelled. Ited from the Queen's army led by the Earl of Sussex. The earls fled to Scotland in Jan 1570. Northumberland was executed in 1570 and Westmoreland fled to Flanders. Elizabeth executed		support France, not him, if she became Queen 3. Elizabeth's popularity: few wanted Mary to replace Elizabeth or wanted the Pope to		Elizabeth's Response beth issued the 1571 Treason Act h: 1 Made it treason to declare t Elizabeth was not the lawful en, 2 Made it treason to publish Papal Bull, 3 Allowed Elizabeth infiscate property from Catholic exiles beth also set up a new Council the North which reduced the owers of the northern earls.	the Protestant nobles and they rebelled, forcing Mary's abdication in favour of her Protestant son, James VI. In 1568 she fled to England. Mary's execution In 1586, Mary's involvement in the Babington Plot was	problems for Elizabeth: if she allowed her to go abroad to France or Spain, Mary might try to invade. If she helped Mary retake her throne or name her heir to the English throne, she would anger Protestants. However, if Elizabeth executed Mary or sent her	
F	Exiles People who flee a country landers Part of modern Belgium			KPI 25 Catholic Plots			discovered. However, Elizabeth refused to sign	trial, France and Spain	
Pa Philip o Red	Heir Vene Get involved in Anti-Protestant Catholic group Catholic church service Public order from the Pope Very Catholic king of Spain Refusing to attend church Ridolfi Plot, 1571 Roberto Ridolfi Plot, 1571 Roberto Ridolfi, an Italian banker, hatca a plot with Philip of Spain to invade England, replace Elizabeth with Mary, marry Mary to the Duke of Norfolk. However, William Cecil and Francis		1571 banker, hatched bain to invade h with Mary, and e of Norfolk. il and Francis	Throckmorton Plot, 158 Francis Throckmorton orga a plan for French Catho soldiers, backed by the Pop Spain, to invade England replace Elizabeth with M	nised blic be and and ary.	Babington Plot, 1586 In 1586 Walsingham discovered coded letters between Mary and Anthony Babington, a Catholic noble, plotting to overthrow	her death warrant. In the end the Privy Council secretly had Mary executed in 1587. Elizabeth was furious. Consequences of Mary's of the death warrant.	might attack. In the end, Elizabeth opted to imprison Mary in England, although there was a risk that Catholics might free her. eath There was no backlash	
T Wals	olerant College for Catholic priests Not strict Freason Going against the monarch Lingham Head of Elizabeth's spies m Cecil Elizabeth's main advisor	Walsingham discovered the was executed and Ridolf from England. MPs wanted but Elizabeth refused a executing a queen went as	i was expelled d Mary executed s she believed	However, Throckmorton arrested and executed. Mai banned from receiving vis and all her mail was check Walsingham.	ry was sitors	Elizabeth with the help of a Spanish invasion. In August 1586, Babington, and six others were executed. Mary was executed in 1587.	against Elizabeth. Scotland a of Spain was already plannir	there were no more plots nd France stayed quiet. Philip ng an invasion of England and nis desire to remove Elizabeth	

ELIZABE	TH 6: The P	uritan Threat			KPI 27 Puritan Beli	efs		KPI 28 Purita	n Challenges to the	Religious Sett	lement	
1566 1570 1571 1576 1579 1582 1583 1584 1586	The Vestm Thomas Ca Strickland Grindal re John Stubb Robert Bro Whitgift b Turner cal Cope calls	nents Controversy artwright's Proposals calls for Puritan Prayer Book fuses to ban prophesyings bs' pamphlet owne forced to flee to Holland secomes Archbishop ls for Calvinism in England for abolition of bishops	Catholici Puritans they had acc 1 Bowing 3 Decor. 4 The r modera Puritans religious b	Puritans wanted to rid the Church of all traces of Catholicism and introduce a 'purer' form of religion. Many Puritans had been radicalised during Mary I's reign when they had been forced to flee to Protestant countries and accepted the extreme Protestantism of Calvin. Puritans opposed: 1 Bowing and kneeling in church 2 Celebrating saints' days 3 Decoration, such as stained glass windows, in churches 4 The role of bishops within the church, although some moderate Puritans accepted positions, such as Edmund Grindal, Bishop of London Puritans believed that everyday life should be based upon religious belief. They wore simple black and white clothing, rejected the theatre and gambling, and devoting Sunday entirely to religious study.				Thomas Cartwright Proposals 1570 In 1570, Cartwright, a professor of religion at Cambridge University, gave a series of lectures calling for a Presbyterian system of church government, including the abolition of all	Stubbs' Pamphlet 1579 Stubbs, a Puritan writer, wrote a pamphlet criticising the Queen for considering marrying a French Catholic, the Duke of Anjou. Elizabeth was	The Marp Tracts 1! The Marp Tracts were of anony pamph attacking th and its bi Althougl authors wed discovered offensive to lost the Pu lot of sup Protestant	relate 588-9 relate a series mous lets e church shops. h the re never d, their anguage ritans a oport. writers	Robert Browne and the Brownists Government attacks forced strict Puritans into hiding. Separatists led by Robert Browne decided to leave the national church because it still contained elements of Catholicism. Browne set up a new church in Norwich but he was forced to
1593 1593	The Act ag	elate Tracts gainst Seditious Sectaries leaders executed Getting rid of something Elizabeth's church Supporters of Anglican Church	Moderates Accepted the 1559 Religious KPI 27 Different Types of Puritans Presbyterians Wanted each Church to be run Young Y		refused to give in. 37 Puritan priests were dismissed from their jobs in London.	bishops and the election of ministers by church congregations. Cartwright was sacked and forced to leave England.	furious and Stubbs was sentenced to have his right hand cut off and 18 months in prison.	such as Richard Hooker wrote responses to the Marprelate Tracts defending the Anglican Church.		flee to Holland in 1582. In 1583, two Brownists were hanged for giving out pamphlets.		
Coo Edmu Joh Lamb Pro P R Robe	Bishops Brownists Calvin Calvinism Committee Ingregation Ind Grindal Holland In Whitgift I	Published without author's name Something to be debated by MPs Important figures in the church Followers of Robert Browne Radical Protestant thinker Policies based on Calvin's ideas Elected group making decisions People who attend church Archbishop 1576-1583 Country in northern Europe Archbishop 1583-1604 Archbishop's palace Large city in England A short leaflet Puritan meetings What is read out in church Introduced to radical ideas Protestant change Separatist leader A short leaflet Done without permission Traditional clothing of priests	called f furthe Protesta reform Walter Strickla nd Peter Turner Anthony Cope The Privy Council	In 157 bill in Prayer church be debt In 15: Elizabe Cope, that cowas ir Partiar Some Walsin their	n Parliament calling r Book banning vest in Elizabeth shut Parbated. 84 Turner, a Pureth to introduce the a Puritan MP, introcalled for the abolismprisoned in the Tenent shut down. powerful Privy Coungham were Puritans	itan MP, introduced a g for a new Puritan ments and kneeling in liament down it could itan MP, called for	During the 1570 became concerr meetings known In 1576 Elizabet Archbishop, Edmu the meetings. H who was a mo refused, claiming helped tr Elizabeth respon Grindal from his o him to Lambet death in 1583. In own instructions	KPI 29 Gover e 'Prophesyings' s, the government ned about Puritan as 'prophesyings'. h ordered her new and Grindal, to ban lowever, Grindal - derate Puritan - g that the meetings ain priests. ded by suspending duties and confining h Palace until his 1577 she issued her is to bishops to ban esyings'.	John Whit Grindal was rep Archbishop by John loyal Anglican and of the Privy Cound Whitgift issued a Articles which force to swear to accept authority of bishop Book, and the T Articles Between 300 and refused and wer Whitgift continued Puritan opposit Elizabeth's deat	gift blaced as h Whitgift, a I a member cil. In 1583, the Three ed all clergy tept the s, the Prayer hirty-nine . 400 priests e sacked. d to attack ion until	The A This gove execu being s held u cou As a leaders Penry 1593.	Act against Seditious Sectaries, 1593 Act gave Elizabeth's rnment the power to ite those suspected of separatists. Those who nauthorised meetings ld be imprisoned or executed. result, the separatist Henry Barrow and John were executed in May This marked the end of eparatist movement.

ELIZABE	ETH 7: The Sp	oanish Armada		KPI 30 Grow	ring Tension with Spa	in	KPI 33 The Course of the Armada			
1566	Dutch Prote	estants rebel against Spain	Philip II		e Netherlands	Privateering	Philip's Plan	Drake's attack on Cadiz		
1567	Spanish arm	ny crushes Dutch rebellion	Philip II, the King of Spain,		nts in the Netherlands the Catholic rule of	Elizabeth encouraged English privateers to	In 1586, Philip planned to build an armada of ships to sail north from	In April 1587, Francis Drake attacked the Armada in Cadiz harbour. Drake		
1575	Dutch Prote	estants rebel again	wanted to use	Spain. In 1567 Philip crushed the		attack Spanish treasure	Lisbon, defeat the English fleet, pick	destroyed 37 ships and burnt supplies		
1585	-		the power of his empire to		army of 10,000 men, rebels and burning	ships returning from the Spanish Main. In	up the Duke of Parma's army from the Netherlands in huge barges, land	of seasoned wood used to build waterproof barrels. Drake's attack		
1363	Luzabetii si	gits the freaty of Norsach	attack		eth was worried abou		in England, and overthrow Elizabeth.			
1587	Execution o	f Mary Queen of Scots	Protestantism across Europe.		e Spanish army so nea her Privy Council wa			<u> </u>		
1587	Drake raids	Cadiz	The death of	split between Willi	iam Cecil, who wante	year voyage around the world in his ship, the	England prepares for invasion Warning beacons were set up on the	Changes to Philip's Plan Philip's plan was flawed: there were		
1588	Spanish Arm	nada	Mary, Queen of	to avoid war, and	the Earl of Leicester	, Golden Hind, to attack	coast. Unlike Parma's army, the	no large harbours in the Netherlands		
	28 May Arm	nada sets sail from Lisbon	Scots ended his plan of putting		ntervene to help the th chose to provide	Spanish ships. He brought back £140,000	English force of 20,000 men was	which made picking up Parma's army		
		ced to return to Corunna	a Catholic ruler		, supplying money and		inexperienced. Elizabeth stationed three armies: in the North, in Kent,	difficult. He had to force an unwilling Duke of Medina Sidonia to lead the		
	21 Jul Lea	ves Corunna nted off English coast	on the English		r, when war broke ou		, , ,	Armada. A dreadful storm then forced		
		hors off Calais	throne and he planned a 'holy		gned the 1585 Treaty h the Dutch rebels,	knighted Drake in 1581. By the 1580s,	Howard, Drake, and John Hawkins	the Armada to return to Corunna in		
		d Howard sends fireships	crusade'		oops led by the Earl o	, ,	led a fleet of 200 light and fast ships.	June 1588.		
	8 Aug Battle of Gravelines		against		and and Spain were	starting to have a	▼ The Armada enters the Channel	Calais and the Fireships		
	9 Aug Elizabeth's speech at Tilbury Armada forced north by wind		Elizabeth.	basical	lly at war.	serious impact on the	With 130 galleons, 30,000 men, and	The Duke of Parma was delayed by		
	12 Aug English fleet turns back					Spanish economy.	1,900 cannons, the Armada entered the Channel in a crescent formation,	Dutch rebels and the Armada had to wait for a week off Calais. On 7 Aug.		
	Armada A large force of armed ships			Ko	y Individuals		with galleons protecting unarmed			
	Cadiz	Important Spanish port					store ships. In July the English fleet	ships into the Armada. The fireships		
	Calais	Important port in France	Philip II	Duke of Parma	Duke of Medina Sidonia	Francis Drake English pirate and	pursued the Armada to Calais but	caused the Spanish galleons to panic		
	Corunna	Spanish port	Ruled over huge Spanish empire,	Appointed to lead Spanish	Devout Catholic	privateer. Raided Spanish	they couldn't break the crescent and sank just two Spanish ships.	and they broke their crescent formation.		
	Crescent Dutch	Half moon-shaped From the Netherlands	including	army in	keen to destroy	shipping in the Golden				
Earl o	of Leicester	Pro-war Privy Councillor	Americas and	Netherlands.	Protestantism but	Hind and attacked the	Elizabeth's speech	The Battle of Gravelines, 8 August		
	Fireships	Unmanned ships set on fire	Netherlands. Ex-husband on	Experienced and feared general	inexperienced at sea. Forced to	Armada at Cadiz in 1587. Vice-admiral of the	Fearing a Spanish invasion, delivered a rousing speech to her army on 9 th	With the Armada scattered, the English fleet attacked. After 8 hours, the		
	Galleons	Large, heavily armed ships	Mary I. Devout	but failed to	lead Armada by	English fleet.	August: "I know I have the body of a	English had sunk 3 Spanish ships and		
	Golden Hind Gravelines	Francis Drake's ship French town, near Calais	Catholic.	meet Armada.	Philip.		weak and feeble woman, but I have	killed 1,000 sailors. The English lost 50		
	hn Hawkins	English sailor and slave trader	KPI 31 R	easons for Failure	KPI 32	Results of the Armada	the heart and stomach of a Kingand I think foul scorn that any prince of	sailors and no ships. It was now difficult for the Armada to join with		
١.	Knighted	Made a 'Sir' by the Queen					Europe should dare to invade my	Parma's army, although an invasion		
	ord Howard letherlands	Leader of English fleet Important part of Spanish Empire	, ,	ths: the English ships manoeuvrable tha		ge: 1 Great celebrations in No more Catholic plots after	realm." ←	was still possible.		
"	Privateers	Private ships used by government	I	The leadership of F		reased anti-Catholic feeling	Pursuing the Armada	The Armada returns to Spain		
P	rivateering	Using private ships to raid	I	rucial: the use of fir		-	On 9th August, the wind changed and	The Spanish had no maps of Scotland		
	Realm Country		was a turning poir			y continuity: 1 War with	the Armada was blown north, pursued	and Ireland. On the journey back to		
	Seasoned wood Wood made waterproof Spanish Main Spanish territory in Americas			knesses: Spanish ca oor-quality iron. Lead		inued until 1604 2 Philip another 100-ship armada but	by the English fleet. The Armada could not sail back to Spain against	Spain 27 ships were wrecked and thousands of sailors drowned. Only 67		
"	Tilbury Port in England			Sidonia was inexper		en back twice by storms 3	the wind had to travel around	of the original 130 ships made it back		
	of Nonsuch	Deal between Dutch and English	I	to turn up on time.		the Netherlands continued	Scotland and Ireland to get home. On	to Spain in the autumn.		
	ing beacons 'illiam Cecil	Towers lit to signal danger		wind forced the S they had no maps fo		peth supporting Protestants rma 4 English privateers	12 th August, the English fleet turned			
w	mam Cecil	Anti-war Privy Councillor	I	tney nad no maps to d water for a long vov	-	rma 4 English privateers o attack Spanish ships	back due to a lack of food.	₱		
			1		, 5 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -					

This option focuses thematically on the main trends in the history of health and medicine in Britain from c.500 to the present day. Candidates will be required to consider the causes, treatment and prevention of illness and disease, advances in medical knowledge, developments in patient care and advances in public health and welfare over time. Candidates will also be required to examine the major political, social, economic and cultural perspectives which have contributed to the development of health and medicine from c.500 to the present day. In this option, centres should ensure that they focus, where appropriate, on the issues of change, continuity, significance and turning points. As part of this option candidates will investigate an historic site connected with this theme. The required content in italics shows which key features and characteristics of the period must be studied.

Key questions	Required Content
Causes of illness and disease What have been the causes of illness and disease over time?	Problems in the medieval era: poverty, famine, warfare: lack of hygiene in the medieval and early modern eras with reference to the Black Death of the fourteenth century and the Great Plague of the seventeenth century; the effects of industrialisation and the incidence of cholera and typhoid in the nineteenth century; the spread of bacterial and viral diseases in the twentieth century
Attempts to prevent illness and disease How effective were attempts to prevent illness and disease over time?	Early methods of prevention of disease with reference to the Black Death: alchemy, soothsayers and medieval doctors; the application of science to the prevention of disease in the late eighteenth and early nineteenth centuries: the work of Edward Jenner and vaccination; the influence and spread of inoculation since 1700; the discovery of antibodies and developments in the field of bacteriology
Attempts to treat and cure illness and disease How have attempts to treat illness and disease changed over time?	Traditional treatments and remedies common in the medieval era: herbal medicines, barber surgeons, use of leeches; Joseph Lister and the use of antiseptics in the later nineteenth century; James Simpson and the development of anaesthetics; twentieth century developments: Marie Curie and the development of radiation; the roles of Fleming, Florey and Chain regarding antibiotics; Barnard and transplant surgery; modern advances in cancer treatment and surgery; alternative treatments
Advances in medical knowledge How much progress has been made in medical knowledge over time?	Common medical ideas in the medieval era: the influence of alchemy, astrology and the theory of the four humours; the influence of the medical work of Vesalius, Pare and Harvey in the sixteenth and seventeenth centuries; nineteenth century advances in medical knowledge: improved knowledge of the germ theory: Pasteur and Koch; the development of scanning techniques in the twentieth century: X-rays, ultrasound and MRI scans; the discovery of DNA and genetic research in the later twentieth century
Developments in patient care How has the care of patients improved over time?	The role of the church and monasteries from medieval times up to the mid sixteenth century; the roles of voluntary charities in patient care after the mid sixteenth century; science and the development of endowed hospitals in the late eighteenth century; Florence Nightingale and the professionalisation of nursing in the nineteenth century; the impact of the early 20 th century Liberal reforms; the Beveridge Report of 1944 and provision under the NHS after 1948
Developments in public health and welfare How effective were attempts to improve public health and welfare over time?	Public health and hygiene in medieval society; public health and hygiene in the sixteenth and seventeenth centuries; the impact of industrialisation on public health in the nineteenth century; the work of Edwin Chadwick leading to Victorian improvements in public health; efforts to improve housing and pollution in the twentieth century; local and national government attempts to improve public health and welfare in the twenty-first century: campaigns, fitness drives, healthy eating

Health	and Medicine 1	: Causes of illness and disease	KPI 1 A	KPI 2 Case Study: The Black Death					
1069 1315 1348		s Europe ath arrives in Britain	Poverty Most people in England worked in a grow their own food, which meant they need on the poverty line, eating pottage. Some at	What was it? In 1348 a ship arrived in Melcombe in Dorset. The ship brought with it a deadly disease - known as the Black Death - that killed over 50% of the population of					
1389 1461		ulton dies in a well unton kills 20,000	Famine In 1069, William I punished Anglo-Sa by ploughing salt into their fields so crops				wiping out entire villages. hink caused the Black Death? People at		
1665	The Plague hi		called the Harrying of the North. All of Euro 15% of the population died.	pe went through a hard famine from	1315-17 in which	the time had no ide Some argued that it	ea about the causes of the Black Death.		
1848 1854 1861	Cholera epide	emic kills 60,000 emic kills 20,000 dies of cholera	War In the later Middle Ages, armies were Townton in 1461, for example, 28,000 died.	Armies also relied on the local popu	llation for food. If	1. Bad smells, caused by rotting food 2. God's anger at people not going to church 3. Jews poisoning the wells			
1918 1980	Spanish flu ki AIDS pandemi	lls 40 million world wide ic begins	an army passed through a village, villagers we Accidents Everyday life was dangerous. In 1	4. The movement of the planets What actually caused the Black Death? The Black Death was a disease called the bubonic plague. The cause of the disease was the 'Yersina pestis bacterium' which was carried by fleas. The fleas lived in the fur of black rats and could easily jump onto humans.					
R	Agriculture AIDS Bacterial Black Death ubonic Plague	Farming Virus that destroys immune system Spread by bacteria Plague that hit Britain in 1348 Disease spread by fleas on rats	well. Two servants came to rescue her but the Towns Medieval towns were badly plann understood. For example, wells for drinking human waste.						
	le of Townton	1461 battle that killed 20,000	KPI 3 The Plague and Renaissance ideas about causes of disease						
	Cholera Contaminated Infected Widespread disease Famine Harrying of the North Miasma Medieval name for 'bad smells'		What was it? The plague was a deadly disease that came frequently to major towns and cities. In 1665, for example, 100,000 people died of the plague in London, nearly a quarter of the city's population.	Renaissance doctors were equall period. Sugges 1. A punish 2. Bad ai	ole think caused it? y as clueless as peop ted causes included: ment from God r or 'miasma' s spread the disease	rs as people in the Medieval included: God God God The cause of the disease was 'Yersina pestis bacterium' who carried by fleas. The fleas live fur of black rats and could eas			
	Pandemic Phossy Jaw	Disease spread across the world Disease caught in match factories	KPI 4 Industrial o	causes		KPI 5 20th Co	entury causes		
	Phosphorous The Plague	Chemical causing phossy jaw 1665 outbreak of bubonic plague		Cholera and Typhoid Spanish Flu In 191			18, the last year of World War I, the world was hit by a flu lly, the flu killed more people than World War I and around		

New diseases began to spread in the industrial period. Cholera is a bacterial disease caused by infected water, although no one knew this at the time. There were cholera epidemics in 1848 (60,000 dead) and 1854 (20,000). Typhoid is a bacterial disease caught from contaminated food and water caused by poor sanitation. Prince Albert, Queen Victoria's husband, died of typhoid in 1861.

Industrialisation

Pneumoconiosis

Poaching

Pottage

Rickets

Sanitation

Typhoid

Transmit

William I

Virus

Slum Housing

Lung disease common in coal miners

Disease caused by a lack of sunlight

Bacterial disease in food/water

King of England 1066-1087

Poor quality and overcrowded housing

Killing animals illegally

Cleanliness / hygiene

Infectious disease

Stew

Spread

During the 19th Century, more and more people began to work in factories, exposing themselves to new diseases. Girls making matches developed 'phossy jaw' caused by the phosphorous used to make match heads. Coal miners developed pneumoconiosis, a lung disease caused by breathing in coal dust. Machines in the new factories were unsafe and often crushed limbs.

Urbanisation

People moved to towns to find work in factories. Conditions in the slum housing of industrial towns were terrible: whole families lived in one room, toilets were shared by many families, and smog filled the air. In 1842, the life expectancy of a worker in London was just 16. These conditions led to diseases such as rickets, a bone disease caused by a lack of fresh air and sunlight.

Spanish Flu In 1918, the last year of World War I, the world was hit by a flu pandemic. Globally, the flu killed more people than World War I and around 280,000 died in the UK. The flu spread faster because of wartime conditions: the movement of soldiers around the world helped transmit the disease to new places and returning soldiers brought the virus back home.

AIDS Acquired Immune Deficiency Syndrome (AIDS) was first identified in the USA in the 1980s. People do not die of the AIDS virus, but it destroys the immune system so patients die of simple infections, like the common cold. Globally, more than 40 million have died from AIDS, including celebrities such as Freddie Mercury, the lead singer of Queen. AIDS is usually caused by:

- 1. Having unprotected sex with someone who has AIDS
- 2. Sharing needles whilst injecting drugs with someone who has AIDS
- 3. Being born to a mother with AIDS

Just like the Black Death, many people did not know how AIDS was spread, they worried that:

- 1. AIDS was God's punishment for modern attitudes to sex and drugs
- 2. AIDS could be caught from simply touching someone with the virus

Health and Med	dicine 2: Preventing illness and disease		KP	l 6 Preventin	g the Black Deat	h	KPI 7 Other Me	edieval methods of prevention	
	is leave Britain Death arrives in Britain		fresh water	to their town	s. However, this	ygiene and the Romans knowledge was lost wher	the through scientific experime	Alchemy Alchemy was the attempt to turn other metals into gold through scientific experiments. Although no one managed to do this, lots of useful scientific discoveries were made in this way. Many	
1795 Charle 1694 Queen	Lind discovers the cause of scurvy s Gordon discovers cause of 'child bed fever' Mary dies of smallpox d Jenner develops smallpox vaccine	The role of the Church The church argued that the Black Death was caused by		Hygiene Some came close to		Other preventions Some less effective preventative method	alchemists claimed to be se keep you young forever. Th	earching for the Elixir of Life: a medicine e medicine - known as quintessence - was ally just made the patient violently sick.	
1854 John S 1866 Anti-Va	40 Government makes smallpox vaccine free for kids 54 John Snow prevents cholera in London 66 Anti-Vaccine League formed		people not praying enough. To stop the disease, the church ordered people to march through towns praying for forgiveness. The most		wing why. King nought that the came from bad ordered the London to be	included: 1. Having a bath in un three times a day 2. Cutting yourself ar letting the cut bleed to	ne collected herbs and plants a charm that would prote do soothsayer was Mother Shi	laimed to have powers of prophesy. They to be used as charms. People could pay for ct them against illness. The most famous pton who lived in Yorkshire. Shipton used well to heal her patients.	
1993 Measle 1994 Hepati 1998 Link be	raccine introduced es vaccine introduced itis B vaccine introduced etween MMR and autism 'identified' neasles outbreak in Britain	extreme group was the flagellants who whipped painted on the doors of themselves to show God that they were sorry for their sins. cleaned. Red crosses were painted on the doors of victims, warning others to stay away. cleaned. Red crosses were painted on the doors of sweet smelling flowers to keep bad smells away		and France but were ineffec	doctors that existed were trained in Italy ctive because so little was known about the onks in monasteries provided medical care. oal remedies.				
			KPI	8 Renaissance	e prevention		KPI 9 Ind	ustrial prevention	
Antibodie Apothecarie Bacteriolog Bloodlettin Child-bed feve Cowpo Elixir of Lif Eradicat Fa Flagellant Germ theor	Alchemy Antibodies Apothecaries Bacteria Bacteriology Bloodletting Child-bed fever Cowpox Elixir of Life Eradicate Fad Flagellants Germ theory Hygiene Inoculated Microscope Apothecaries Apothecaries Apothecaries People wo sell natural cures Tiny cells spreading diseases The study of bacteria and disease Bleeding to stop disease Deadly infection caught in childbirth Mild disease caught from cows Medicine to make you live forever Completely get rid of A craze Group who whipped themselves Idea that disease is spread by germs Keeping clean Given a mild disease to protect against a more serious disease Machine for studying germs		Cold V During the century, people belitaking t (bathing water) wo them hea and seasilike Ba Brighton popular. built 'plur of cold water	eighteenth wealthy ieved that he cure' i in cold buld keep lthy. Spa de towns th and became The rich nge pools' ter in their	The scientific experiments to Renaissance w science became For example, in worked out that spread by midwi advised that do regularly and wa treating patic mocked at the tidiscovered that scurvy and recovered that scurvy are scurvy and recovered that scurvy are scurvy and recovered that scurvy are scurvy as scurvy and recovered that scurvy are scurvy as scurvy and recovered that scurvy are scurvy as scurvy as scurvy are scurvy as scurv	entific Method method meant using o work things out. The vas the first time that important in medicine. 1795 Alexander Gordon t 'child-bed fever' was ves and doctors. Gordon ctors wash their clothes ish their hands in before ents, although he was me. In 1753, James Lind t a lack of fruit caused ommended that British lrink lime juice.	disease, including the microsco became a much bigger influe John S In 1854, John Snow, a doctor ir poor quality water and cholera. death on a street plan. There we Broad Street - in just two weeks pump on Broad Street and the been using polluted water G During the 19 th Century, Louis P theory: the idea that tiny bacter developed the science of bacteri body's natural defence aga	nventions that helped stop the spread of ope and stethoscope. In general, science nce on medical practice. For example: now and Cholera I London, demonstrated the link between the recorded the location of each cholera re over 500 deaths focussed on his street. Snow removed the handle from the water disease declined. The water company had from the River Thames in the pump. erm Theory asteur, a French doctor, discovered germ ia spread diseases. A German, Robert Koch, ology and worked out that antibodies - the ainst germs - could destroy bacteria.	
Milkmaid	ds Women who milk cows					<u> </u>		l www.r.c	
MMR vaccin Monasterie Prophes Quintessenc Scurv Smallpo	Where monks live Predicting the future So-called elixir of life A disease caused by a lack of Vitamin C A deadly infectious disease	1796 and even killing Queen Mary in 1694. In vacci 1796, Edward Jenner, a country doctor from pa Gloucestershire, noticed that milkmaids who had vacci			In vaccir m pare had vaccin ner disease	nation free to all children a ents who didn't vaccinate ation, claiming that it was or interfere with God's pl	epidemic, the government made and in 1871 introduced fines for their children. Many opposed wrong to inject children with a an, and formed the Anti-Vaccine	MMR debate In 1998 Dr. Wakefield published research showing that the MMR vaccine could lead to autism. This caused a widespread rejection of the MMR vaccine, a real danger because 95% of children need to	
Soothsayer Sp	· ·		worked out that having cowpox inoculated patients against smallpox. He proved this by Caught Cowpox never Caught Smallpox. Jenner disease or interfere with God's plan, and League in 1866. However, vaccination completely eradicating smallpox by the					be vaccinated for a disease to be eradicated. Wakefield's research has	

more vaccines were introduced for diseases such as: polio (1955),

measles (1993), and Hepatitis B (1994). As a result, child mortality

has fallen from 150 per thousand in 1800 to 4 per thousand today.

injecting his own 11-month-old son with cowpox

and then smallpox: the boy survived. Jenner had

discovered vaccination.

Not drinking alcohol

Inoculating against disease

County in the North of England

Teetotalism .

Vaccination

Yorkshire

been rejected but vaccination rates are

only 93% and Britain had its first measles

outbreak in 2012.

Health and Medicine	3: Treating and curing illness and disease		KPI 11 Medieval treatments							
1628 William Ha	vey publishes study of circulation		Medicines			leeding			Surgeons	Urine
1853 Queen Vict 1871 Joseph List 1880 Berkeley M 1886 Gustav Neu	oson first uses chloroform on a patient oria uses chloroform during childbirth er invents carbolic acid spray oynihan uses surgical gloves ber uses a sterile operating theatre	Herbs were widely used to cure dise Herbal remedies included a mixtur honey and plants and were written of with strict instructions about whi herbs to pick and when. Some reci would only work if the herbs were p on the night of the full moon.		xture of en down which recipes re picked	Many people thought that illness caused by the body creating too blood so curing disease often in letting a patient bleed. This was done by cupping (sucking blood the body) or with leeches. Leech		much olved either out of es were	the Medieval per to barber surge your hair, barbe broken limbs, carried out surge	trained surgeons in riod so people went eons. As well as cut er surgeons mended pulled teeth, and ery. Barber surgeons knowledge and very	Urine was vital for diagnosing illness and working out what remedy to give a patient. A physician would check the colour, smell, and taste against a chart to help decide how to treat a patient.
1928 Alexander	wins first Nobel Prize Fleming discovers penicillin by accident	on the hight t	or the fattinot	OII.	though to only su th	e body.	out of		training.	now to treat a patient.
	owey, and Chain win Nobel Prize transplant	KPI 1	12 Renaissand	ce treatm	ents			KPI 13 In	dustrial treatments	
Acupuncture Anaesthetic Antibiotics Antiseptic Barber surgeons Chemotherapy	A substance that numbs pain Drugs that kill bacteria A substance that kills germs Part-time, untrained surgeons Use of powerful drugs to treat cancer	Continuity Many treatments from the Medieval period continued to be used in the Renaissance. For	New ingred The discove America a explorati around the v provided r ingredients	ery of and ion world new	The Scientific Method The most significant change in the Renaissance was the use of science - doing	James Simpson and anaesthetics In earlier periods, any kind of surgery was very painful because surgeons did not use anaesthetic. In 1847, the Scottish scientist James Simpson began to use chloroform to reduce pain in childbirth. Patients would inhale chloroform and quickly fall asleep. The use of chloroform became more popular after 1853 when Queen Victoria used it whilst having a baby. Cocaine, imported from South America, was also given to patients.				
Chloroform Circulation Cocaine Cupping Diagnosing Germ theory	How blood moves around the body An anaesthetic drug Sucking blood from the body Finding out what is wrong The idea that germs spread disease	example, the use of herbal medicines medicines medicines example, was continued with the Nicholas Culpeper's when it was first		for was as a cure	experiments and recording results - to better cure diseases. For example, William Harvey	Joseph Lister and antiseptics Many surgery patients died from sepsis, an infection caught during an operation from the surgeon and his tools. An English surgeon called Joseph Lister changed this by using an operating room sterilised with carbolic acid. He soaked his hands, his instruments, and the wound regularly. In 1871 he invented a machine that sprayed carbolic acid over the entire room. This reduced the mortality rate in his operations from 46% to 15% in just 3 years.				
Homeopathy Impure Leeches Mastectomy Nobel Prize	A blood-sucking worm Surgery to remove breasts	doctrine of signatures: the idea that plants could be used to treat body parts	natures: the Asia. Smoking scientific study of circulation in 1628 d be used to day was also which was based	Aseptic Surgery Surgeons who understood germ theory wanted to create completely germ-free environments for surgery. This was called aseptic surgery. In 1886 a German surgeon called Gustav Neuber used the world's first sterile operating theatre and his methods were widely copied.				on called Gustav Neuber used		
Operating Theatre Penicillin Petri dish Physician	An antibiotic	that they looked like!)	supposed to you getting plague	g the	on experiments on fish and snakes.	Surgical clothing Gradually, surgeons began to use specialist clothing to prevent infection. In the 1880s Berkeley Moynihan became the first British surgeon to wear surgical gloves for an operation.				
Physicist	A scientist specialising in physics					KPI 14 20 th Ce	ntury trea	atments		
Radioactive Radiotherapy Remedies Sepsis Sterile Sterilise Surgeons Surgery Transplant	Infection caught during surgery Without bacteria To make sterile	Curie won the Nobel Prize in 1903 and 1911 for her work discovering the radioactive elements, radium and polonium. These elements could be used to destroy human cells and therefore opened up new ways of treating cancer,		a form of before go the pen surround discovered was devel Chain and II sped up could be u	Antibiotics he scientist Alexande mould - penicillin - ing on holiday. Wher icillin had killed off ding it. By accident, I the antibiotic peni loped by Howard Flo published in the 194 the development of sted to treat war wou lso be used to treat meningitis, and impe	in a petri dish in he returned, the bacteria Fleming had cillin. His work wey and Ernst 40s. World War the drug as it unds. Penicillin pneumonia,	The lat saw the transp which si simp 1952 tr 1967 transpla by Dr Ch	plant Surgery ter 20th Century development of clant surgery in ick organs were oly replaced: : first kidney ransplant 7: first heart ant, carried out hristian Barnard artificial hips htroduced	Cancer treatment Along with radiotherapy, cance is also treated throug chemotherapy: the use of powerful drug to kill cancerous cell Surgery is also used teat cancer, with mastectomy commonly used to treat breast cancer	The increased use of technology and drugs to treat diseases has led some to reject modern medicine. This has led to a rise in such as acupuncture and homeopathy which are popular with those who dislike the idea of filling

Health an	d Medicin	e 4: Advances in Medical Knowledge	KPI 15 Medieval knowledge								
460 BC 130 AD 900 1277 1525	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Hippocrates and Galen Medical knowledge in the Middle Ages was based on the work of Hippocrates and Galen. Both had written their ideas over a thousand years before and their knowledge had been lost in Europe. However, Islamic doctors such as Ibi Sina had translated their work into Arabic. Medicine in the Islamic World was much more advanced than in Europe during the Middle Ages.			Galen believed the n body contained four	Astrology Medieval doctors also believed that the movements of the stars influenced the human body. Each part of the body was		The Role of the Church The Church was at the centre of Medieval life and taught that prayer and pilgrimage were the most effective way of treating disease. The Church set up medical schools to teach		
1543 1575 1628 1880 1882 1895 1910	Vesalius publishes De humani corporis Paré publishes Les Oeuvres Harvey publishes On the Motion of the Heart Pasteur discovers rabies vaccine Koch discovers tuberculosis vaccine X-rays invented Ehrlich develops Salvarsan 606		Hippocrates was a doctor from Ancient Greece. He believed in the theory of the four humours. Hippocrates is known as 'the father of modern medicine'. Galen was a Roman doctor. He dissected animals to understand how the body worked and took the ideas of Hippocrates further. His work arrived in Europe in 900 via Arabic translations, which were then translated into Greek at the University of Salerno. The Church approved of Galen's ideas because he mentioned 'the Creator'.			healthy body had a balance of humours. Illness was caused when the humours	associated astrologica many Euro countries, were requ check the p the moon	ted with an gical sign. In back a knowles, surgeons required to position of back as a knowles are position of before was a		en's ideas. The church held ack advances in medical mowledge because they ended Galen. For example, loger Bacon - a medical urer at Oxford University - vas arrested in 1277 for allenging Galen's views.	
1953	Crick and Watson discover DNA		KPI 16 Renaissance Know	16 Renaissance Knowledge		Challenge to	Galen Key w		ork	Influence	
1980s MRI mach		Removing limbs Muslim language Movements of the planets Signs of the zodiac, like pisces/leo Study of bacteria and disease Using hot oil to stop a wound bleeding Movement of blood around the body From ancient Greece and Rome Cut up a dead body Carrier of human genes Blood, phlegm, yellow bile, black bile Roman doctor An illness caused by DNA	Challenging Galen The Renaissance saw the rebirth of classical knowledge and by 1525 Galen's complete works had been republished in Greek. However, as Renaissance surgeons studied anatomy and performed operations of humans, they noticed differences between Galen's ideas and what they saw. This led to a split between supporters and critics of Galen.	Andreas Vesalius 1514-64	Professor of Surgery at Padua in It He carried out his own dissection humans and believed this was the way to understand how the bod worked.	s on human body showed best ideas about anaton ly animal dissection	= - = , = = = - =		nani ris libri 1543)	Vesalius's work gave surgeons more accurate knowledge of anatomy and encouraged others to challenge Galen.	
				Ambroise Paré 1510-90	A surgeon in the French Army for years. He developed new techniq including using ligatures to tie owounds after amputation and the of artificial limbs.	ues Galen. he ran out of cauterising wounds use mixture of egg yolk:	cauterising wounds, so he used a		vres	The father of modern surgery. Encouraged surgeons to use techniques that reduced the amount of pain.	
				William Harvey (1578- 1657)	Physician to King James I. Harve discovered circulation: the idea t blood is pumped around the body the heart. Previously, Galen ha thought that blood was made in t liver and went one way.	that Galen was wrong blood travelled. He that the heart was to	ng about how also showed the centre of iver as Galen On the		f the t	Harvey's work revolutionised medicine. Galen's supporters, however, totally rejected his work and he lost many patients.	
Human (Genome	Complete DNA of a human	KPI	KPI 18 20 th Century knowledge							
lbn Sina Ligatures Micro-organisms MRI Pilgrimage Salvarsan 606 Syphilis The Creator Theory Tuberculosis Ultrasound		Islamic doctor who translated Galen String used to tie up a vein Germs Magnetic scanning technique A journey to a holy site Drug used to treat syphilis Sexually transmitted infection God Idea Deadly infectious disease of the lungs Scanning technique	Germ Theory, the idea th four humours as the wa important in Louis Pasteur: identified and develop Robert Koch: worked o identified the bacteria res Paul Ehrlich: a student diseases, for example in 19	Scanning Technologies In the late 20 th Century, medical scans have improved care: X-Rays: first developed in 1895 to show broken bones, used in WW1 to better treat wounds, although initial doses of radiation were high Ultrasound: can detect organs/muscles, used to check health of unborn babies since 1970s MRI: uses magnets to give a very clear image, can be used to examine any disease, since 1980s			disco general 200 hum DNA, to disea	The use of DNA scientists Crick and Watson overed DNA, which carries tic information, in 1953. In 03 scientists mapped the nan genome. By modifying , scientists have been able eliminate some genetic ases and ensure babies are a without genetic disease.			

Health and	Medicine 5: Patient Care	KPI 19 Medieval patient care							
1546 E 1662 R	he Dissolution of the Monasteries ndowment of St Bartholomew's Hospital oyal Society set up homas Guy donates money to set up Guy's Hospital	Monasteries Medieval hospitals were run by the church and were more concerned with religion than healthcare. Most hospitals were part of monasteries,		Only 10% of medieval ho sick. In fact, seriously ill in because they distracte		ospitals als actually cared for the le were often not allowed m worship. Patients were	Different types of Christian hospitals Leper Hospitals provided a home for people with leprosy. People feared contact with lepers so Leper Hospitals were built on the outskirts of towns. Almshouses were medieval care homes and provided the		
1856 N	lorence Nightingale serves in the Crimean War ightingale School of Nursing set up otes on Nursing Published	such as Tintern Abbey. Over 1100 hospitals were built in this period.		expected to spend their day praying for forgiveness so God would cure them. They were looked after by monl and nuns. There were few doctors.		ere looked after by monks	elderly with sheltered accommodation. Almshouses also cared for orphaned children and poor travellers.		
	ational Insurance Act (sick pay)	KPI 20 Renaissance patient care							
1942 B 1946 N 1948 F	everidge Report ational Insurance Act (pregnant women/unemployed) ounding of the NHS	Monasteries In Londo In 1536, Henry VIII granted		yal Hospitals n, the governmer I endowments to to keep them ope	The number of hospitals also grew, with 11 new hospitals set up in London and 46 in the rest of				
Consert Crimea Diss Endow	n War War between UK and Russia, 1854-6 colved Shut down lowed Given land and money	monasteries. This had a dramatic impact because the church no longer supported hospitals. Charities had to step in to keep hospitals open.	Five London hospitals were given endowments, including St. Bartholomew's Hospital which was endowed in 1546 help serve the poor and sicof Smithfield in London.		e 1. Renai ng up, il to 3. Indu	Renaissance doctors applied the scientific method to treatments. Scientific society up, such as the Royal Society in 1662, which spread scientific knowledge about meant larger towns, each needing a hospital solution. Industrialisation allowed industrialists to become very wealthy. Some industrialists to become very wealthy.			
	rance Lack of education	KPI 21 Industr	ire	KPI 22 20 th Century patient care					
Insu Laissez	rance Benefits r-faire Belief that government shouldn't interfere	New Hospitals The 19 th Cer in the number of hospitals, increase. Hospitals also be	caused by po	sed by population		During the 19 th Century, governments followed a policy of laissez-faire and did not believe it was the government's role to interfere in people's lives. In the 20 th Century the government's role increased:			
L L€	abour UK political party representing the workers epers People with Leprosy contagious disease that deforms limbs beral UK political party representing the rich who	Florence Nightingale Before 1850, nursing was not seen as a respectable job. Nurses were untrained and often drunk. Nursing improved dramatically after the Crimean War. In 1854, a British nurse - Florence Nightingale - took 38 nurses to a military hospital in Scutari. She reduced the death rate from 42 of 100 to just 2 of 100 in six months by: 1. Washing patients regularly 2. Spacing beds out 3. Opening windows to circulate air	ancer treatm	nent. Ionalisation e returned to and set new r nurses. In 1856 50,000 to set up agale School of 1859 she wrote rsing which said: ust live at the spital to keep a work was inspected month re were 68,000	Liberal Reforms 1906-14	1911. This provided sick p	iberal Chancellor, introduced the National Insurance Act in ay and free treatment. Workers received 10 shillings per week did not cover their wives/children or the unemployed.		
Mat Monas Philanthr	want to help the poor Related to childbirth Large religious buildings where monks live NHS NHS NAtional Health Service, free for all Rich people who give money to help poor		Nightingale retur Britain and set standards for nurses she raised £50,000 the Nightingale Sc Nursing. In 1859 sh Notes on Nursing wl Nurses must live hospital Nurses had to kee diary which was in each month By 1901 there were trained nurses in Nightingale wrote Hospitals in 1863 proposed the 'pa design' with separa linked by a long co allow air flo		Beveridge Report 1942	Want, Disease, Ignorance led acted on Beveridge's r - 1946 National Insuranc	Ige identified 'Five Giants' that needed to be tackled by government: Ignorance, Squalor, and Idleness. After 1945, the Labour government everidge's recommendations, for example: al Insurance Act provided benefits for pregnant women/the unemployed to Countryside Act gives public access to national parks		
	otions Medicines cutari Town in Turkey qualor Poor, dirty housing Want Hunger				The founding of the NHS 1948	- Free medical treatment - All hospitals brought und - National system of GPs s Doctors, led by the BMA, o income. The Conservative	Labour Minister for Health, Aneurin Bevan, set up the NHS in 1948. This meant: ee medical treatment to all British citizens 'from the cradle to the grave' l hospitals brought under government control, paid for by taxes ational system of GPs set up to provide free treatment in local areas tors, led by the BMA, opposed the plans because they worried they would lose ome. The Conservative Party opposed the NHS because it went against laissez-favever, by 1949, 187 million free prescriptions had been written.		
				wrote <i>Notes on</i> n 1863 which the 'pavilion separate wards ong corridor to	Changes to the NHS 1948- today	In 1952 charges for special charges for s	n made to the NHS since 1948: ctacles and dental treatment were introduced nme was introduced in the 1960s to replace out of date rnment led by Margaret Thatcher (1979-90) tried to cut the sublic opposition		

Health and Medicine 6: Public Health			KPI :	23 Medieval Public Health		KPI 24 Case St	tudy: Medieval Coventry		
1489 1532 1666		ans slaughterhouses in towns Illows the building of sewers of London	was either thro	Waste There was no waste collection so rubbish just built up in the streets. There were no sewers, so human waste was either thrown into the street or into a cesspit, often located near wells, which led to contamination. Water for drinking and washing was often taken from the same stream that people used to dispose of waste.				place to improve public health: 1. Every man had to clean the street in front of his house every Sunday or pay a 12 penny fine	
1844 1848	Public Heal	ets up the Health of Towns Association th Act gives councils permission to act	Animals Medieval towns were full of animals: horses for transport, cows for milk, etc. Animals created dung and attracted fleas, which spread disease. Butchers slaughtered animals in towns and left the waste to rot.			od front of his pay a 12 pe			
1875				here was no 'zoning' of towns, so	ere you could build so houses were crowd o industry and houses were mixed, leading	g to water pollution by	, around the	vaste-disposal locations edge of the city sover local streams were	
1889 1899	Boer War b		processes like	tanning. nomes were covered wit	th straw, providing a perfect breeding gro	und for rats.		be removed	
1901	Seebohm R	owntree publishes York poverty survey			KPI 25 Public Health in the	Renaissance			
Boer War Cesspit Clean Party Contamination Demolish Dirty Party British war in South Africa, 1899-1903 Pit for collected sewage Group of politicians urging government to improve conditions in towns Infection Knock down Group of politicians opposing government action to improve public health		Towns during the Renaissance period were just as unhealthy as before, with regular outbreaks of the plague killing thousands. However, during the 16 th and 17 th centuries, the government took action to make towns more hygienic. For example: - In 1489, Henry VII banned slaughterhouses from towns to stop the spread of disease the spread of fire			6, the Great Fire of Londo ings in London. After the fi that homes should be rebui ead of fire and disease. The	The Great Fire of London Great Fire of London destroyed most of the London. After the fire, the city authorities omes should be rebuilt on wider streets to limit fire and disease. There were no major plague outbreaks in London after 1666.			
		KPI 26 Industrial Public Health KPI		(PI 27 20 th Century Public Health					
Fiti	Depression ness Drives h inspector	pression 1930s economic crisis Solution Government attempts to make people do exercise Inspector Local government official in charge of	the Industrial about poor cor	period, the government believed inditions. As a result of overcrowdi	ople living in cramped housing during in laissez-faire and did not do anything ing, poor water and gas supply, in 1842 pect to live to the age of just 17.	Social Surveys When the Boer Wa broke out in 1899, the army rejected	After WW1, the Primeminister David	New Towns During the 1960s, slum clearance programmes destroyed cramped and	
	issez-Faire Latrines Legislation	interference in economy or society atrines Toilets		le were poor because of ill-health ions. Chadwick set up the Health	nn Party, a group of politicians who n and urged the government to improve of Towns Association in 1844. He was up was too expensive for ratepayers.	one in three recruit because they were unfit. This led to surveys investigatin poverty, eg:	promised 'Homes for Heroes' and	unsanitary housing in city centres. New towns such as Yate outside Bristol were developed to allow	
	Public health Quadrupled Ratepayers Sanitation Slaughterhouses The way the government keeps the whole population healthy Increased x 4 People who pay council tax Hygiene / cleanliness Buildings where animals are killed for		Government Action Chadwick and the cholera epidemic forced the government to abandon laissez-faire and pass legislation to improve public health: Charles Booth (1889) found that 35% of		Depression limited	people to live in greener and less			
1			1848 Public Health Act		prove conditions if they wished, though cils had a health inspector.	London's population were living in poverty	councils had built over 1 million new	polluted environments, with gardens, public parks, and pedestrian	
	Clearance	meat			alth inspectors, provide clean water, wers, and collect rubbish	Seebohm Rowntre (1901) found that half of the	homes with electricity, running water, and indoor	walkways separated from roads. The population of Yate	
Unsanitary Un		slums Unclean Putting factories etc in different areas to	1875 Housing Act		emolish poor quality slum housing and more hygienic housing	population of York lived in poverty	toilets.	quadrupled between 1965 and 2000.	
	J	homes			KPI 28 21st Century Pub	lic Health			
			action to encouragi	Campaigns ntury, governments have taken o improve public heath by ing people to live healthier example by stopping smoking.	Fitness Drives The NHS has attempted to reduce cos people to live healthier lives. For exar Health' encourages people to walk 10 and provides support to help them n	nple, 'Walking for ,000 steps per day	Governments have also t Day' campaign attempted fruit or veg a day to re	y Eating argeted diet. The 'Five-a- d to get people to eat five educe the risk of heart or cancer.	

OCR ICT Level 1/2 Cambridge Nationals J810 Module 4 Knowledge Organiser R001 – Examined unit

L01: Understand:

Features and purposes of computing devices, Input devices, i.e. mice, keyboard, microphone, sensors, pads, specialist keyboards

Output devices, i.e. monitor/screens. printers, speakers, head/earphones **Software**, i.e.: -operating systems (e.g. Windows, OS X, Android, iOS) utility software (e.g. computer security) Applications software, i.e. word processors, desktop publishing software, spreadsheets, database management software, multimedia software, slideshow software, video-editing software, graphics manipulation software, communications software (e.g. social networking software, chat, instant messaging, file transfer and email clients), presentation software, gaming software, web browsers, apps for portable devices storage and connectivity devices Memory cards, i.e. flash memory devices network devices (e.g. routers, modems)

Resources / Information

cloud storage

http://www.ocr.org.uk/qualifications/cambridge-nationals-ict-level-1-2-j800-j810-j820/

OCR Cambridge Nationals in ICT Level 1 / 2 Hodder Education

L02:Understanding

Data capture methods, i.e.: online and paper-based forms

Automated data capture systems, How to design data capture forms to obtain specified information How to code information for use in a spreadsheet or database,

Data storage technologies, i.e.: local and removable media, remote storage (e.g. offsite location, cloud storage)

Security measures to be used when storing data, i.e. network/computer security, i.e.: Usernames/passwords,— access rights/permissions

Data transferring technologies, i.e. wired and wireless methods, mobile data transmission (e.g. 3g, 4g), remote methods Security methods, i.e. data encryption How the following factors can affect the choice of method: file size, transfer speed, future-proofing, data

L04 Understanding

Legal implications (e.g. action from the Information Commissioner) Impact on customers (e.g. reduced confidence in business, increased risk of personal identity theft) impact on employees (e.g. Disciplinary action for not following company procedures)

The main threats to data security and how to deal with them, i.e.:threats to data security, i.e. computer viruses, Trojans, worms, phishing, spyware, adware, hacking Denial of Service (DoS) attacks physical threats (e.g. loss/theft of devices)
Actions to minimise risks, i.e.act online in ways which reduce the risk of identity theft and protect personal security

Use of protection software, i.e. firewall, anti-virus, anti-spam, data encryption to store and transfer data

Using automatic and manual updating facilities for operating systems and security software

L03 Understanding:

How businesses can communicate with employees and others working remotely, How diary management software can be used to organise work schedules, i.e.: creating appointments/meetings Inviting participants

Creating tasks

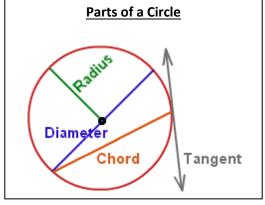
Creating to-do lists

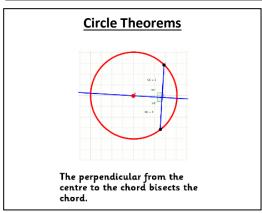
Setting reminders

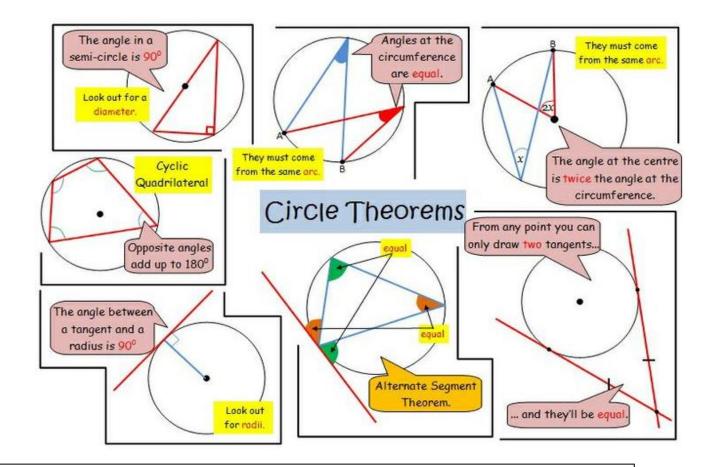
How documents can be created and edited collaboratively, i.e.:

Documents in shared access locations, i.e.: network shared areas (e.g. read/write access), cloud-based services.

Circle Theorems Knowledge Organiser



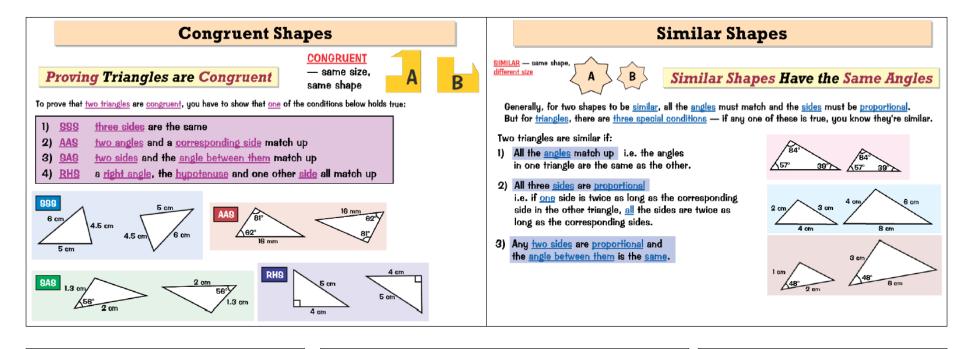




Vocabulary

Centre, arc, circumference, diameter, tangent, radius, isosceles, perpendicular bisector, chord, segment, opposite, cyclic quadrilateral, alternate.

Congruence and Similar Shapes Knowledge Organiser



Linked Prior Topics

Triangles Constructions Transformations Scale factors

Vocabulary

Congruence Similarity Proportional Corresponding Hypotenuse

Linked Future Topics

Proofs

KP1 HT4 Foundation Graphs, tables and Charts

Stem and Leaf:

Data is organised by breaking individual pieces up into a stem and a leaf:

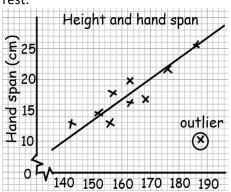
KEY



- 1 8, 9, 9 3 | 1 = 31 2 0, 0, 1, 3, 4, 5, 7, 9 3 0, 1, 2, 2, 4, 8, 9
- Stem and leafs must be ordered!
- · The smaller the leaf, the closer to the stem it must go.
- Save yourself time by putting your data in numerical order before creating the diagram.
- ALWAYS INCLUDE A KEY!!!

Scatter graphs

- Plots two sets of variables.
- Axes do not need to start at zero.
- A line of best fit should go through the centre of the data.
- Sloping upwards is a positive correlation, downwards is a negative correlation.
- Outliers do not follow the trend of the rest.



Two Way Tables

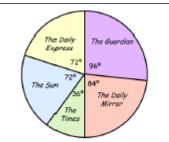
	English	Maths	Science	Total
Girls	20	13	17	50
Boys	18	15	13	46
Total	38	28	30	96

Two way tables are used to compare 2 variables split into many categories. In this example it is gender and subject. Once the data is in columns and rows it easier to read from and understand and calculate probabilities and percentages.

Pie Charts

Pie Charts are used to represent large one variable data sets. Generally they are used for Qualitative data. In this example there are 30 people who read newspapers. As a pie chart is 360 degrees we need to see what one person is worth. 360 divided by 30 equals 12. So each person is worth 12 degrees.

Newspaper	No of People	Workings	<u>Angle</u>
The Guardian	<u>8</u>	8 x12°	<u>96°</u>
Daily Mirror	<u>7</u>	7 x 12°	<u>84°</u>
The Times	<u>3</u>	3 x 12 °	<u>36°</u>
The Sun	<u>6</u>	6 x 12°	<u>72°</u>
Daily Express	<u>6</u>	6 x 12°	<u>72°</u>
	<u>30</u>		<u>360°</u>



Top Tip: Always draw each angle clockwise, using the previous line drawn to start.

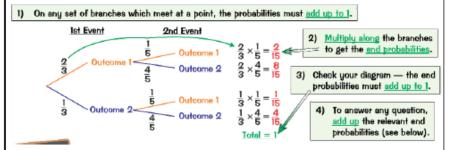
Vocabulary

Frequency tables, Two-way tables, Representing data, Time series, Stem and leaf diagrams, Pie charts, Scatter graphs, Line of best fit, Predict, interpret, relationship, positive and negative correlation, compare

HT4 Foundation KPI 2 Probability

Tree diagrams:

Tree diagrams help us to answer what can seem like complex probability problems. They let us systematically list all the possible outcomes of a set of events and then work out the probability of each case happening. See Example 1:



"at least" Questions:

When a question asks you to find the probability of "at least" so many events happening you can speed up the process by doing: 1 - P(less than) at least so many events happen). See Example 2:

Conditional Probability and Tree diagrams:

Watch out for conditional probability and tree diagrams. The denominator of your fractions will change depending on the previous event!! For an example look at the dependent probability knowledge organiser.

Theoretical Probability:

Theoretical Probability is what we expect the probability of an event to be. E.g the theoretical probability of rolling a 1 on a regular 6 sided dice is $\frac{1}{2}$

Estimating Outcomes:

We can estimate the number of times we expect to get a result by multiplying the number of trials by the theoretical probability of the event happening. This is the same process as finding a fraction of an amount.

Example: I am going to roll a dice 60 times, how many times would I expect to roll a 1? $60\times\frac{1}{6}=60\div6\times1=10.$ I would expect to get 10 results of a 1.

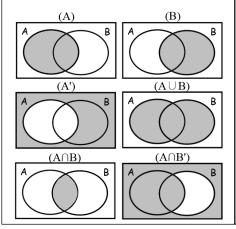
Experimental probability:

Is when you calculate the probability of an event based on data that has been collected. Example: a dice is rolled 60 times. The results are in the table:

Result	1	2	3	4	5	6
No of Result	20	5	12	10	7	6
Experimental Probability	20 60	5 60	12 60	10 60	$\frac{7}{60}$	6 60

Experimental Probability = number of times result happened / total trials

Venn Diagrams and Set Notation



Vocabulary: Probability, event. outcome, result, likelihood, chance, impossible, certain, fraction, decimal, percentage, theoretical, expected, experimental, trials, independent, mutually exclusive, sets, Venn Diagrams, subsets, compliment, union, and, or

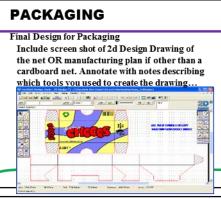
P (event **not** happening) = 1 - P (event happening).

P (event) = Number of ways the event can occur Total number of outcomes

Independent vs Dependent Events:

The probability of 2 events is dependent if the probability of one event changes depending on the outcome of the other. If neither event affects the probability of the other then they are independent.

- Model your idea in cheap, easy to use materials (Lego, card, MDF). The model should show how the parts fit together and may only show a part you need to work out.
- Photograph it and explain what you have found out from the model. It may be you have changed how it fits together, how to make parts, sizes etc. "From my modelling I have found out...."





PACKAGING INITIAL DESIGN

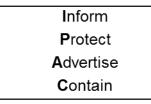
- •Generate a RANGE (not lots of rectangular boxes!) of designs for a suitable package for your product (4ideas) – CONSIDER LOGOS, AND SLOGONS.
- •For each design show a 3D sketch, and/or net layout and annotation.
- •Use the colours to emphasise the important information

Recyclable steel

Al other elactics

Folyethylene

torephthalate



3

Symbols used on recyclable packaging

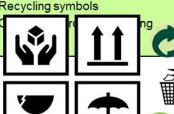
(aju)

۵

Alum niun

Polyatyrona

- Product and Company Name
- 2. Logo
- 3.
- Barcode
- 4. Instructions
- 5. Ingredients/contents
 - Recycling symbols









MUST

INCLUDE!



AQA - GCSE Product Design - Development of Design Proposals & Making **Module 4 Knowledge Organiser**

Final Design drawings:

Objective: To show a detailed, possible, final design.

- Show your design in detail, including exploded views, sections and detailed views.
- Remember to show how the parts fit together and show
- The drawing should be clear, well presented and in colour.

Top marks: The design proposal needs to have enough information for someone else to be able to manufacture the idea.







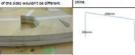
Once, I got the right size which was



Once it was all sanded down and was month, tapes obth sides together to sei fittey were pymeetical and if the was any anomalies with the overall plage. The make place that to slot wit the bottom. This is because the other would need to stand up and by them both being the same, the other would become table. There was a first place on the chair that needed to be sanded down a bit more to make them similar.

the saw part and gently push the plywood forward and follow the lin This allowed me to get as close as





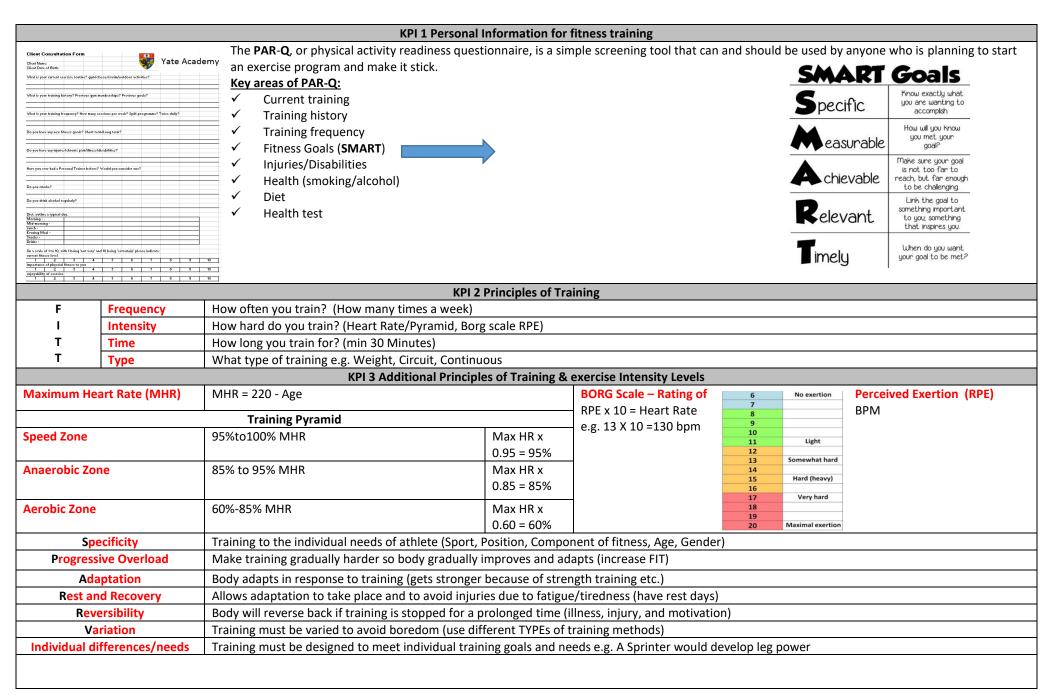
see how big the seat needed to be and how high the seat needed to be. I raised the front of the seat so it

Making diary:

Objective: To show how the product was made and demonstrate our skills.

- Show the processes you are using to make your design. This page (or pages) will be a series of photographs taken as you work with notes to explain what you have done.
- As this is done whilst making you should use time at home to write up what you have done and use lessons in the workshop to complete the practical work.

BTEC SPORT - Module 4 Knowledge Organiser - - Unit 5 Training for Personal Fitness



	KPI 4 Programme	Design			
Muscular End	durance Strength & Power Training	Aerobic Endurance Training			
Free Weights	Sets, reps, barbell, dumbbell	Sets, reps, barbell, dumbbell Continuous Training Constant pace, non-stop 30 mins			
Circuit Training	stations	Fartlek Training	'Speed play', slow, medium, fast, different terrain		
Plyometrics	bouncing, throwing, jumping	Interval Training	work, rest, work, rest		
	KPI 5 Exercise adhere	ence factors			
Access to Facilities	Living in a rural area you may face a access for disabilities	Living in a rural area you may face a long commute, limited timetables for public transport. Little or no facilities providing access for disabilities			
Time	Fitness often takes a lower priority b	ehind, school work,	job, family and other responsibilities.		
Cost	To join a gym, sports team, health cl	ub can be seen an ur	nnecessary expense or simply unaffordable		
Lack of Interest	No interest in their own personal fitr	No interest in their own personal fitness and healthy lifestyle			
Personal Injury	If injured this will result in a reduction	n of time in the gym	or complete withdraw from fitness		
Motivational		Personal motivation will have the biggest influence in our ability to remain dedicated. Some people find it hard to motivate themselves, save money, allocate time.			

the number of chromosomes **Meiosis halves**

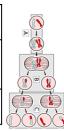
Gametes are made in reproductive organs (in animals ovaries and testes)

Cells divide by meiosis to form gametes

Copies of the genetic information are made.

The cell divides twice to form four gametes each with single set of chromosomes.

All gametes are genetically different from each other.



Sexual reproduction involves the fusion of male and female gametes.

Asexual reproduction involves only one parent and no fusion of gametes.

Sperm and egg in animals.

Pollen and egg cells in flowering plants.

e.g. cloning of females only in an aphid population.

Produced by meiosis. There is mixing of genetic information which leads to a variety in the offspring.

Only mitosis is involved. There is no mixing of genetic information. This leads to genetically identical clones.





Advantages and disadvantages of sexual and asexual reproduction (Biology only)

Gametes join at fertilisation to restore the number of chromosomes

Meiosis

The new cell divides by mitosis. The number of cells increase. As the embryo develops cells differentiate.

Meiosis leads to non-identical cells being formed while mitosis leads to identical cells

being formed

When the protein chain is complete it folds to form a unique shape. This allows proteins to do their job as enzymes, hormones or new structures such as collagen.

Some change the shape and affect the function of proteins e.g. and enzyme active site will change or a structural protein loses its strength

Protein

synthesis

(HT only)

Most do not alter the protein so that its appearance or function is not changed.

In DNA the

complementa

ry strands C,

A, T, G always

link in the

same way. C

always linked

to G on the

opposite

strand and A

to T.

Repeating

nucleotide units.

nucleotide

Mutations occur

continuously (HT only)

(HT) Making new proteins (protein synthesis)

Composed of chains of amino acids. A sequence of 3 bases codes for a particular amino acid.

DNA in the nucleus unravels.

Enzymes make a copy of the DNA strand called mRNA.

mRNA moves from the nucleus to ribosome in the cytoplasm.

Ribosomes translate each 3 bases into amino acids according to mRNA template

Ribosomes link amino acids brought by carrier proteins.

A long chain of amino acids form. Their specific order forms a specific protein.

A sequence of 3 bases is the code for a particular amino acid. The order of bases controls the order in which each amino acid is assemble to produce a specific protein.

Reproduction advantages/disadvantages Sexual Asexual Needs two Only one parent needed (quicker). parents. Identical offspring Produces variation in the offspring. (no variation). If the environment Vulnerable to changes variation rapidly changing gives a survival conditions due to advantage by lack of variation. natural selection. Negative mutation Negative mutations are not can affect all always inherited. offspring. Natural selection can by speeded up Food/medicine

using selective

breeding to

increase food

production.

DNA and the genome

Genetic material in the

nucleus is composed of

a chemical called DNA.

DNA structure

Polymer made up of two

strands formina a

double helix.

Contained in structures

called chromosomes. A

gene is a small section of

DNA on a chromosome.

Each gene codes for a

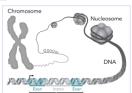
sequence of amino acids

to make a specific

protein.

Sexual and asexual reproduction

AQA GCSE INHERITANCE, **VARIATION AND EVOLUTION Part 1**



The genome is the entire genetic material of an organism.

(Biology only) = Adenine = Thymine = Guanine

DNA structure

Phosphate

(HT only) Not all parts code for genes on and off. Mutations may affect how genes are expressed.

proteins. Non-coding parts can switch

human genome has now been studied.

from the past.

Malarial Asexually in the human host but sexually in a mosquito. parasites Some organisms use Asexually by spores, sexually to **Funai** both methods give variation. depending on the Produce seeds sexually, asexually circumstances **Plants** by runners in strawberry plants, bulbs division in daffodils.

production can be

extremely quick.

nucleotide consists of a common sugar, phosphate group and one of 4 different bases A, C, G & T IA is polymer made from to different nucleotides. Each DNA group' Searching for genes linked to The whole different types of disease. It is of great importance Understanding and treatment for future of inherited disorders. medical developments Tracing migration patterns

and sugar

back bone

made from four

Very rarely a mutation will lead to a new phenotype which if is suited to environmental change can lead

to rapid change in the species.

Embryo screening: small piece of developing placenta removed to check for presence of faulty genes

Gene therapy: replacing the faulty allele in somatic cells with a normal allele

Embryo	Economic	Costly and not 100% reliable.
screening /gene	Social	Not available to everyone (due to cost).
therapy issues	Ethical	Should only 'healthy' embryos be implanted following screening.

Variation

Mutations occur continuously

Variation: difference in the characteristics of individuals in a population may be due to Genetic causes There is usually (inheritance) extensive genetic variation within the **Environmental** population of a causes (condition species e.g. hair they have colour, skin colour, developed in) height that can also A combination of be affected by aenes and environment e.g. environment nutrition, sunlight.

All genetic variation arises in mutation, most

have no effect on phenotype, some influence

but very few determine phenotype.

Using a family tree: If the father was homozygous dominant then all of the offspring would have the disorder. He must be heterozygous

Embryo screening and gene therapy may alleviate suffering

Some disorders are inherited. They are caused by the inheritance of certain alleles

Polydactyly	Cystic fibrosis
Caused by inheriting a dominant allele.	Caused by inheriting a recessive allele (both parents have to at least carry it).
	Δ disorder of

Causes a person/anim al to have extra toes or fingers.

the cell membrane. Patients cannot control the viscosity of their mucus. Ordinary human body cells contain 23 pairs of chromosomes

determination

Sex

	determine sex					
	Female	Male				
	XX			XY		
	Gametes	X	(Υ		
	Х	X	X	XY		
	X	X	X	XY		

One pair of chromosomes

carry the genes that

The probability of a male of female child is 50%. The ratio is 1:1

Using a punnet square (using mouse fur colour as an example)

colour as all example)					
Parent	Black fur	White fur			
phenotype		20 ,			
Parent genotype	BB	bb			
_	In each egg	In each sperm			
What gametes are present	В	b			

Gametes	b	b
В	>Bb	Bb
В	Bb	Bb

The probability of black fur offspring phenotype is 100%. All offspring genotypes are heterozygous (Bb).

Crossing two heterozygous mice (Bb)

Gametes	В	b
В	ВВ	Bb
b	Bb	bb

The probability of black fur is 75% and white fur 25%. The ratio of black to white mice is 3:1

AQA GCSE
INHERITANCE,
VARIATION AND
EVOLUTION PART 2

Mother (

Amy

Peter

Inherited disorders

Female without disorder

Female with disorder

Male without disorder

Male with disorder

The genome and its interaction with the environment influence the development of phenotypes

	Gamete	Sex cells produced in meiosis.	
Define terms linked to genetics	Chromosome	A long chain of DNA found in the nucleus.	
	Gene	Small section of DNA that codes for a particular protein.	
	Allele	Alternate forms of the same gene.	
	Dominant	A type of allele – always expressed if only one copy present and when paired with a recessive allele.	
	Recessive	A type of allele – only expressed when paired with another recessive allele.	
ne te	Homozygous	Pair of the same alleles, dominant or recessive.	
Defir	Heterozygous	Two different alleles are present 1 dominant and 1 recessive.	
_	Genotype	Alleles that are present for a particular feature e.g. Bb or bb	
	Phenotype	Physical expression of an allele combination e.g. black fur, blonde hair, blue eyes.	

Some characteristics are controlled by a single gene e.g. fur colour, colour blindness.

Father

Sam

The alleles present, or genotype operate at a molecular level to develop characteristics that can be expressed as a phenotype.

Most characteristics are as a result of multiple genes interacting.

Genetic inheritance

The concept of probability in predicting results of a single gene cross.

Dominant and recessive allele combinations

Dominant	Recessive
Represented by a capital letter e.g. B.	Represented by a lower case letter e.g. b.

3 possible combinations: Homozygous dominant BB Heterozygous dominant Bb Homozygous recessive bb Over time this results in new formation of r species.

the

theory of evolution by natural selection.

The

Species of all living thinas have evolved from simple life forms that first

years ago.

Through natural selection of variants (genotypes) that give rise to phenotypes best suited to their environment or environmental change e.g. stronger. faster. This allows for variants to pass on their genotype to the next generation.

Use current for living

classification data organisms and fossil data for extinct organisms

Classification of

living organisms

Evolutionary trees are a method used by scientists to show how organisms are related

> Choosing characteristics Desired characteristics are chosen for usefulness or appearance

> > Disease resistance in food crops.



Animals which produce more meat or milk.



Selective breeding can lead to 'inbreeding' where some breeds are particularly prone to disease or inherited defects e.g. British Bulldogs have

breathing difficulties

Domestic dogs with a gentle nature.



Large or unusual flowers.



Concern: effect of GMO on wild populations of flowers and insects.



Genes from the chromosomes of humans or other organisms can be 'cut out' and transferred to the cells of other organisms.

crops Genetically modified (GMD)

Crops that have genes from other organisms

more resistant to insect attack or herbicides.

To become

To increase the yield of the crop.

If two populations of one species become so developed different in phenotype that they can no longer 3 billion interbreed to produce fertile offspring they have

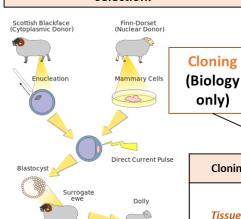
formed two new species.



Darwin's finches

Humans have been doing this for thousands of years since they first bred food from crops and domesticated animals.

A change in the inherited characteristics of a population over time through the process of natural selection.



Evolution

AQA GCSE INHERITANCE VARIATION AND EVOLUTION PART 3

The process by which humans breed plants/animals for particular genetic characteristics

> **Selective** breeding

Genetic engineering

Modern medical is exploring the possibility of GM to over come inherited disorders e.g. cystic fibrosis

Selective breeding Choosing parents with the desired

characteristics from a mixed population

Chosen parents are bred together.

From the offspring those with desired characteristics are bred together.

Repeat over several generations until all the offspring show the desired characteristics.

Concern: effect of GMO on human health not fully explored

Adult cell cloning

- 1. Nucleus is removed from an unfertilised egg.
- 2. Nucleus from body cell is inserted into egg cell.
- 3. An electric shock stimulates the egg to divide into an embryo
- 4. Embryo cells are genetically identical to adult cells.
- 5. When embryo has developed into ball of cells it is inserted into host womb.

Cloning techniques in plants/animals

Small groups of cells to grow new plants. Important Tissue for preservation of rare culture plants and commercially in nurseries.

Cuttinas

Part of a plant is cut off and grown into full plant.

Embryo transplants

Splitting apart cells from animals embryo before they become specialised. New clone embryos are inserted into womb of adult female.

Concern: some people have ethical objections to adult cell cloning e.g. welfare of the animals.

Genetic engineering process (HT only)

- 1. Enzymes are used to isolate the required gene.
- 2. Gene is inserted into a vector bacterial plasmid or virus.
- cells.
- plants/animals/microbes at an early stage of development so they develop the required characteristics.

3. Vector inserts genes into the required

4. Genes are transferred to



Charles Darwin

Theory of evolution by natural selection.

Individual organisms within a particular species show a wide range of variation for a characteristic.

Individual most suited to the environment are more likely to breed successfully.

Characteristics enable individuals to survive are then passed on to the next generation.

Theory of

evolution

(Biology

only)

Carl Woese

3 domain based on

chemical analysis.

Archaea (primitive

bacteria), true

bacteria, eukarvota,

Evidence from around the world, experimentation, geology, fossils, discussion with other scientists (Alfred Wallace) lead to:

Charles Darwin 'On the Origin of the Species' (1859)

Published the theory of evolution by natural selection

Slowly accepted; challenged creation theory (God), insufficient evidence at time, mechanism of inheritance not vet known.

Other theories e.g. Lamarckism are based on the idea that changes occur in an organism during its lifetime which can be inherited. We now know that in the vast majority of cases this cannot occur.

The full human

classification

Class Mammal Order Primates Family Hominida Genus Homo	Animalia	
	Chordata	
class ings	Class	Mammalia
eus g thi	Order	Primates
inna- livin	Family	Hominidae
arlı	Genus	Ното
J	Species	sapiens

Classification of living organisms

Due to improvements in microscopes, and the understanding of biochemical processes. new models of classification were proposed.

Organisms are named by the binomial system of genus and species. Humans are Homo sapiens

Fossils and antibiotic resistance in bacteria provide evidence for evolution.

Resistant strains are not killed.

Strain survives and reproduces.

People have no immunity to strain and treatment is ineffective.

Evolution is widely accepted. Evidence is now available as it has been

shown that characteristics are passed on to offspring in genes.

Extinction

When no members of a species survive

geological events, disease, climate change, habitat destruction, hunting by humans.

little different organisms have changed over time. other scientists.

Alfred Wallace



Speciation (Biology only)

AQA GCSE INHERITANCE VARIATION AND EVOLUTION PART 4

Evidence for evolution

Developed since its proposal from information gathered by

> Published joint writings with Darwin in 1858.

> > Worked worldwide gathering evidence.

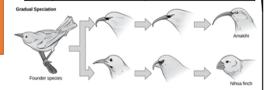
Did much pioneering work on

speciation but more evidence

over time has lead to our

current understanding.

Best know for work on warning colouration in animals and his theory of speciation.



The understanding of genetics (biology only)

Independently

proposed the

theory of

evolution by

natural

selection

Gregor Mendel

In the mid 19th century carried out breeding experiments on plants

Inheritance of each characteristic is determined by units that are passed on to descendants unchanged.

Fossils

'remains' of ancient organisms which are found in rocks

Parts of organism that have not decayed as necessary conditions are absent.

Parts of the organism replaced by minerals as they decay.

Preserved traces of organisms such as footprints, burrows and rootlet traces.

Early forms of life were soft bodied and few traces are left behind and have been destroyed by geological activity, cannot be certain about how life began.

Led to gene theory being developed but not until long after Mendel died.

Allows biologists to understand the diversity of species on the planet.

Speciation

Due to isolation of a population of a species e.g. species are split across far apart islands.

Environmental conditions differ for populations e.g. types of food available, habitat.



Individuals in each population most suited to their environments are more likely to breed successfully.



Over long periods of time each population will have greater differences in their genotype.



If two populations of one species become so different in phenotype that they can no longer interbreed to produce fertile offspring they have formed two new species.

Further understanding of genetics

Improving technology allowed new observations.

Late 19th century: behaviour of chromosomes in cell division.

Early 20th century: chromosomes and Mendel's 'units' behave in similar ways. 'units' now called genes must be located on chromosomes.

Mid 20th century: structure of DNA determined. Mechanism of gene function worked out.

Due to extreme

Fossils tell scientists how much or how

Chemistry 6: Rate and Extent of Reaction KNOWLEDGE ORGANISER (trilogy)

KPI:C29 (p142)

Recall the equation and calculate rates of reaction

The rate of a chemical reaction can be found by measuring the quantity of a reactant used or the quantity of product formed over time:

Mean rate of reaction = quantity of reactant used

time taken

Mean rate of reaction = <u>quantity of product formed</u> time taken

KPI:C30 (p143)

Describe and explain the factors affecting reaction rates in terms of collision th

Particles must collide with enough energy in order to react.

Collision theory explains how various factors affect rates of reactions.

Chemical reactions can occur only when

reacting particles collide with each other and with sufficient energy. The minimum amount of energy that particles must have to react is

called the activation energy.

Increasing the concentration of reactants in solution, the pressure of reacting gases, and the surface area of solid reactants increases the

frequency of collisions and so increases the rate of reaction.

Increasing the temperature increases the frequency of collisions and makes the collisions more energetic, and so increases the rate of reaction.

KPI:C31 (p143 - 146)

Describe and explain the effect of catalysts on reaction rates

Catalysts speed up a reaction, without being used up in the reaction.

They are not part of the overall equation.

Different catalysts are needed for different reactions.

They all work by reducing the activation energy needed for a reaction to

occur

KPI:C32 (p147)

Describe the energy changes in a reversible reaction

A **reversible reaction** is a **reaction** where the reactants form products, which **react** together to give the reactants back. A and B can **react**

$$A + B \Longrightarrow C + D$$

KPI:C33 (p147)

Explain what equilibrium is

When the rate of the forward reaction is equal to the rate of the reverse reaction, the reaction is said to have reached equilibrium.

At equilibrium, the concentrations of the reactants and products are constant, but are not necessarily equal.

Example: the reaction of iron(III) ions with thiocyanate ions.

 $Fe^{3+}(aq) + CNS^{-}(aq)FeCNS^{2+}(aq)$

Pale yellow iron(III) ions react with colourless thiocyanate (CNS) to produce red iron thiocyanate.

KPI:C34 (p148)

Describe and explain how Le Chatelier's principle affects equilibrium position when conditions change, including: temperature, pressure and concentration

Le Chatelier's principle is an observation about chemical equilibria of reactions. It states that changes in the temperature, pressure, volume, or concentration of a system will result in predictable and opposing changes in the system in order to achieve a new equilibrium state.

Temperature increase = equilibrium will move in the endothermic direction Pressure increase = the equilibrium tries to reduce it and moves to in the direction of fewer gas particles

Concentration = changing the concentration means the system is no longer at equilibrium

Chemistry 7: Organic Chemistry KNOWLEDGE ORGANISER (trilogy)

KPI:C35 (p150)

Describe the formation of crude oil and the structure of alkanes

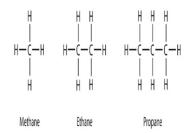
Stage 1 - All of the oil and gas we use today began as microscopic plants and animals living in the ocean millions of years ago. As these microscopic plants and animals lived, they absorbed energy from the sun, which was stored as carbon molecules in their bodies. When they died, they sank to the bottom of the sea. Over millions of years, layer after layer of sediment and other plants and bacteria were formed.

Stage 2 - As they became buried ever deeper, heat and pressure began to rise. The amount of pressure and the degree of heat, along with the type of biomass, determined if the material became oil or natural gas.

KPI:C36 (p151)

Describe and explain the properties of alkanes and relate this to fractional distillation

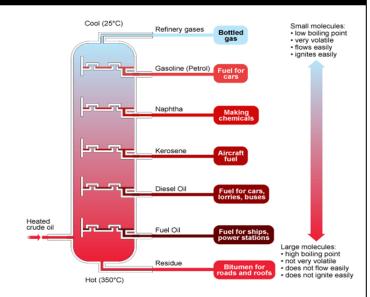
Crude oil forms naturally over millions of years from the remains of living things. Most of the compounds in crude oil are hydrocarbons. These are compounds that contain hydrogen and carbon atoms only, joined together by chemical bonds called covalent bonds.



KPI:C37 (p151 - 152)

Describe the uses of alkanes including combustion

Oil provides fuel for transport. Diesel oil, kerosene and heavy oils come from crude oil. Hydrocarbons are used to make new compounds used in polymers, solvents and lubricants



KPI:C38 (p152 - 155)

Describe the process of cracking including the production of alkenes and the test for alkenes

Cracking is the process of splitting up long-chain hydrocarbons to make useful products, such as fuels.

We need to know how pure a substance is

We can find out a substances purity by its boiling or melting point

Paper chromatography is an analytical method used to separate the substances in a mixture

Tests for gases;

Chlorine = bleaches damp litmus paper

Oxygen – relights a glowing splint

Carbon dioxide – turns limewater cloudy

Hydrogen – squeaky pop

Chemistry 8: Chemical Analysis KNOWLEDGE ORGANISER (trilogy)

KPI:C39 (p153)

Explain purity in terms of melting and boiling points

Purity means nothing has been added to a substance, so it is in its natural state. A pure substance is something that contains one compound or element.

Chemically pure substances will boil or melt at specific temperatures.

Measure the purity of a sample by measuring its melting and boiling point.

KPI:C40 (p153)

Describe commercial products as formulations

Formulations are mixtures with exact amounts of a compound made by using a formula. The compounds are added in measured quantities to contribute to the properties of the formulation. Formulations are used in the pharmaceutical industry for checking the drug is delivered to the right part of the body, concentration, that it is consumable and has a long shelf life. Paints are composed of pigment, solvent, binder and additives. For example, paints are composed of pigment, solvent, binder and additives.

KPI:C41 (p155)

Recall and describe tests for gases

Tests for;

- Chlorine bleaches damp litmus paper turning it white
- Oxygen present if a glowing splint relights
- Carbon dioxide turns limewater cloudy
- Hydrogen present if a lit splint makes a squeaky pop sound

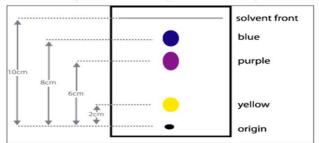
KPI:C42 (p154)

Describe and explain the use of chromatography to separate mixtures

Chromatography is an analytical method used to separate the substances in a mixture. There are two phases;

- A mobile phase, where the molecules can move.
- A stationary phase, where the molecules can't move
- Calculating the Rf value by using the formula:
- Rf = <u>distance travelled by substance</u> distance travelled by solvent

Color	D1	D2	Rf 0.2			
Yellow	2	10				
Purple	6	10	0.6			
Blue	8	10	0.8			



Chemistry 9: Chemistry in the Atmosphere KNOWLEDGE ORGANISER (triple)

KPI:C58 (p91)

Describe the evolution of the Earth's atmosphere to the present day

The Earth's atmosphere has over 4.6 billion years

There are 3 phases;

Phase 1. The first billion years the surface was covered in volcanoes that erupted and released lots of gases. The gases were present were carbon dioxide, nitrogen and small amounts of water vapour, methane and ammonia.

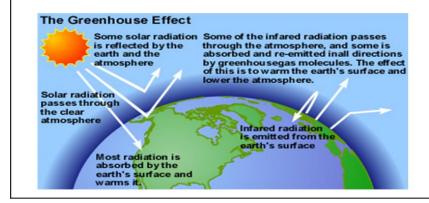
Phase 2. water vapour condensed to form the oceans. The carbon dioxide dissolved into the oceans, also forming carbonate precipitates.

Phase 3. 2.7 million years ago algae evolved and then plants. These produced oxygen. Increased oxygen in the atmosphere allowed more complex life to evolve.

KPI:C59 (p92)

Describe the greenhouse effect and how human activity contributes to it

Greenhouse gases such as carbon dioxide and methane act like an insulating layer in the Earth's atmosphere. Particles absorb certain frequencies of radiation. Greenhouse gases absorb long wavelength radiation that gets reflected back to Earth. This is thermal radiation which is warming the surface of the Earth. Human activity which is increasing greenhouse gases; deforestation, burning fossil fuels, farm animals producing methane through digestion.



KPI:C60 (p93)

Describe the effects of global warming and how carbon footprints can be reduced

Carbon footprints are a measure of the amount of carbon dioxide and other greenhouse gases released over a full life cycle of something.

Humans can reduce our carbon footprint by:

- Using renewable energy sources
- Taxing companies based on greenhouse gas output
- Governments can put a cap on emissions
- Use technology that captures carbon dioxide, and then store it deep underground.

KPI:C61(p94)

Describe the effects of atmospheric pollutants from burning fuels

Burning fossil fuels produces carbon dioxide, carbon monoxide, oxides of nitrogen, sulfur dioxide and carbon monoxide. If there is not enough oxygen to burn the fuels solid particles are also produced, called particulates. Particulates can lead to respiratory problems and cause global dimming Carbon monoxide can prevent blood from carrying oxygen around the body Sulphur dioxide forms sulphuric acid and nitrogen oxide forms nitric acid These then fall as acid rain which kills plants and destroys buildings.

Chemistry 10: Using resources KNOWLEDGE ORGANISER (triple)

KPI:C62 (p99)

Describe uses of resources by humans and distinguish between finite and renewable resources

Natural resources come from the Earth, Sun and the air.

Finite (non-renewable) resources will run out. They are not produced quickly enough to be replaced. These include fossil fuels, nuclear fuels, minerals and metals found as ores.

Renewable resources reform at a similar rate to their usage. For example, timber, fresh water and food.

KPI:C63 (p102 - 103)

Describe how potable water is obtained and how waste water is treated

Water that humans can drink is essential for life. Potable water contains the right levels of dissolved salts and a pH between 6.5 – 8.5. Sources include fresh water, ground water or sea water that has been treated by desalination.

Waste water treatment includes; **screening** to remove large bits, **sedimentation** to separate effluent and sludge. Aerobic and anaerobic digestion to break down organic matter.

KPI:C64 (p100)

Describe how copper is extracted from low grade ore

Copper is extracted from low grade ores (ores without a lot of Copper). Scientists are using bioleaching, which uses bacteria to convert copper compounds into copper ore and phytoming, growing plants in soil that contains copper.

KPI:C65 (p101)

Describe and use life cycles assessments to assess the environmental impact of products

Life cycle assessments (LCA) show total environmental costs by looking at every stage of a product's life. This includes; getting the raw material, manufacturing and packaging, using the product and product disposal.

KPI:C66 (p100)

Describe the processes involved in recycling common materials

Recycling metals involves melting and than casting them into other shapes. This uses less energy than extracting and mining metals. Glass is recycled by crushing, melting and reshaping

KPI:C67 (p98)

Describe corrosion and its prevention and the identity and use of alloys

Corrosion is where metals react with substances in their environment and are gradually destroyed. Both air and water are needed for iron to rust.

Iron + oxygen + water hydrated iron (III) oxide

KPI:C68 (p96)

Describe the production and use of ceramics, polymers and composites

Ceramics are non-metal solids with high melting points. They are made from clay. It is moulded, fired at high temperatures, it hardens to make ceramic clay.

Composites are made of one material embedded in another. Fibres or fragments (reinforcements) are surrounded by a matrix acting as a binder.

Properties of polymers are influenced by how and what it is made from. For example, Low density poly ethene is made from ethene at moderate temperatures.

KPI:C69 (p104 - 105)

Describe and explain the conditions required to produce ammonia and it's use in producing NKP fertilisers

Ammonia is made from nitrogen and hydrogen in the Haber process.

N2 + 3H2 2NH3 (+ heat)

Nitrogen comes from the air. Hydrogen from reacting methane gas with steam.

They are passed over an iron catalyst with a high temperature and pressure. NKP fertilisers provide plants with the essential elements for growth.

A device using a small current to control a larger current in another circuit Lots of turns of wire increase the magnetising effect when current flows Turn current off, magnetism lost. A long Magnetic field coil of from each loop wire adds to the next. Reverse current, magnetic magnetic field is weaker.

field direction reverses. Further away from the wire,

Current large enough, iron filings show circular magnetic field.

If current is small, magnetic field is very weak.

Solenoid is wound around an iron core. Small current magnetises the solenoid. This attracts to electrical contacts, making a complete circuit. Current flows from battery to starter motor.

Use larger current Increase strength of magnetic field Use more turns of wire Put turns of wire closer together

Use iron core in middle

Right hand rule Direction of Magnetic field around a wire current. Fingers Direction of magnetic field.

Electric current flowing in a wire produces a magnetic field around it.

Split-ring commutator

Generators

Electric motor

Split ring touchina two carbon brush contacts

Coil of wire rotating

inside a magnetic field.

The end of the coil is

connected to slip rings.

Coil of wire

rotates

about an

axle

Converts variations in electrical current into sound waves.

Produces

altering

current.

Current flows through the wire

causing a downward movement

on one side and an upward

movement on the other side.

speakers

Fond 9

Varying current flows through a coil that is in a magnetic field. A force on the wire moves backwards and forwards as current varies. Coil connected to a diaphragm. Diaphragm movements produce sound waves.

Converts pressure Microphones variations in sound waves into variations in current in electrical circuits.

Fleming's lefthand rule

To predict the direction a straight conductor moves in a magnetic field.



Thumb		Direction of movement.
First finger		Direction of magnetic field.
	Second finger	Direction of current.

HIGHER **Motor effect**

only

AQA MAGNETISM AND

ELECTROMAGNETISM

Induced potential, transformers and **National Grid**

Magnetic fields from the permanent magnet and current in the foil interact. This is called the motor effect.

Reverse the current, foil moves upwards.

Aluminium foil placed between two poles of a strong magnet, will move downwards when current flows through the foil.

Size of force acting on foil depends on magnetic flux density between poles, size of current, length of foil between poles.

F = B X I X I

Force = magnetic flux density X current X length

If current and magnetic field are parallel to each other, no force on wire.

Magnetic Lines drawn Lots of lines to show = stronger magnetic field magnets. Magnetic flux density Number of Measures lines of the strength magnetic flux of magnetic in a given force. area

Electromagnet

Permanent and Induced Magnetism

Magnets

	Magnetic	Materials attracted by magnets	Uses non-contact force to attract magnetic materials.				
	North seeking pole	End of magnet pointing north	Compass needle is a bar magnet and points north.				
	South seeking pole	End of magnet pointing south	Like poles (N — N) repel, unlike poles (N — S) attract.				
	Magnetic field	Region of force around magnet	Strong field, force big. Weak field, force small. Field is strongest at the poles.				
	Permanent	A magnet that produces its own magnetic field	Will repel or attract other magnets and magnetic materials.				
	Induced	A temporary magnet	Becomes magnet when placed in a magnetic field.				

PHYSICS HIGHER only

Distributes electricity generated

in power stations around UK

Two coils of wire onto an iron core

National

Grid

Alternating current supplied to primary coil, making magnetic field change. Iron core becomes magnetised, carries changing magnetic field to secondary coil. This induces p.d.

Step-up transformers	Step-down transformers
Increase voltage, decrease current	Decrease voltage, increase current
Increases efficiency by reducing amount of heat lost from wires.	Makes safer value of voltage for houses and factories.

When a conducting Induced potential wire moves through a magnetic field, p.d. is produced

Generator effect

Generates electricity by inducing current or p.d.

Uses of the generator effect

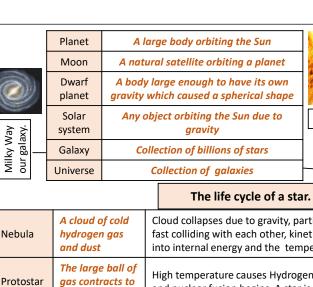
Dynamo, Microphones

Power lost = Potential difference X Current

> Power supplied to primary coil = power supplied to secondary coil $V_p X I_p = V_s X I_s$

Voltage across the coil X number of coils (primary) = Voltage across the coil X number of coils (secondary) $V_p \div V_s = n_p \div n_s$

Force	Newton (N)
Magnetic flux density	Tesla (T)
Current	Amperes (A)
Length	Metres (m)
Power	Watts (W)
p.d.	Voltage (V)



Comets, asteroids, satellites.

Solar system

Other objects.

Gravity causes moons to orbit planets, planets to orbit the Sun, stars to orbit galaxy centres.

Force of gravity changes the moon's direction not its speed.

HIGHER:

Gravity pulls objects towards the ground.

Orbital motions

of gravity.

AQA

SPACE PHYSICS

PHYSICS ONLY

Red shift

Understanding models.

To calculate speed of orbits. Orbit: distance object Speed moves in 1 orbit, of Orbit. Distance = 2∏r, then HIGHER: Circular

average speed = distance ÷ time.

Correct speed = steady orbit around Earth.

Too slow = falls to Earth.

Too fast = disappears into Space.

Planets close to the Sun, gravity

Planets further away from the Sun, gravity pull is weaker. So speed of planet is slower.

pull is strong. Planets move quickly.

When ambulances go past the sound changes from a high pitch to a low pitch.

Frequency of sound wave decreases, wavelength increases.

	Nebula	A cloud of cold hydrogen gas and dust	Cloud collapses due to gravity, particles move very fast colliding with each other, kinetic energy transfeinto internal energy and the temperature increases.					
	Protostar The large ball of gas contracts to form a star		High temperature causes Hydrogen nuclei to collide and nuclear fusion begins. A star is 'born'.					
Main Stable period star		Stable period of star	Gravity tries to collapse the star but enormous pressure of fusion energy expands and balances the inward force.					

Stars the same size as our Sun.

Red giant	A large star that fuses Helium into heavier elements	Hydrogen runs out, star becomes unstable, pressure inside drops causing star to collapse. Atoms now closer together results in atoms fusing and temperature increases. This increase in temperature causes the core to swell.					
White dwarf	Star collapses	Nuclear fuel runs out, fusion stops, dense very hot core.					
Black dwarf	Cold dark star	White dwarf cools down.					

Stars larger than our Sun.

	Red super giant	Star swells greatly	Nuclear fuel begins to run out and star swells (more matter = bigger size).					
	Supernova	Gigantic explosion due to run away fusion reactions	Rapid collapse, heats to very high temperatures causing run away nuclear reactions, star explodes, flinging remnants out into space. Large gravitational forces collapse the core into a tiny space. Remains of supernova form heavier elements (Iron and above)					
	Neutron star	Very dense star	Made out of neutrons.					

The observed increase in wavelength of light Red-shift from most distance galaxies. Light moves towards the red end of the spectrum. Hubble He studied light from distant galaxies; found (1929)as frequency decreases, wavelength increases. Light from star in our galaxy. Light from star in nearby galaxy. Light from star in distant galaxy.

Velocity = a vector.

A planet's velocity

changes but speed

remains constant.

Due to the Sun's gravity, planets

accelerate towards

the Sun and so

changes direction.

The Big Bang Universe began 13.8 billion years ago All matter and space expanded Red—shift provides

evidence for expansion.

Aristotle Earth at the centre, other heavenly bodies move (ancient Greek) around the Earth. Copernicus Sun at the centre, other heavenly bodies move (1473 - 1543)around the Sun. Made a telescope, looked at Jupiter, found four Galileo (1610) moons rotating around planet.

Galaxies are moving away from us in all directions.

Light from distant galaxies is red-shifted, so galaxy is moving away from us.

Galaxies further away have bigger red-shift so are moving faster away.

Planets and moons moved at different speeds to stars = reason for different positions.

OR if collapse is into a really tiny space.

Black hole

violently from a single point.

No light escapes

Gravitational forces so strong everything is pulled in.

					T West Market									1
	Wave speed	-	eed = frequency X wave	_	Wave Motion,	$\cap \cap$	Transv	rerse V		causing the wave at angles to the	Energy is carried outwards by the		r and waves,	
	Wave period		ve period = 1 ÷ frequenc	,	Particle Motio		wav	ve d	_	f energy transfer	wave.	S way		
	Speed	S	peed = distance ÷ time	v = d ÷ t	Wave Motion		Longitu			causing the wave	Energy is carried	Soun	d	
Wavelength	Distance from on	point on	a wave to the same poi	nt of the next wave	Particle M	ofice	wav			to the direction ergy transfer	along the wave.	wave wave		
Amplitude	The m	aximum di	sturbance from its rest											
Frequency		Transverse and Longitudinal waves						Ultraviolet, visible light, infra-red radiation		'	Energy lost is not at the			
Period	Tii	Waves in air, → c			Earth and / pe		netrate atmosphe		1 1					
Prover Shallow task of some Supply Oscillating public	In water, use a ripple tank.	Mea	suring speed P	roperties						Global	neat up Earth's su onger wavelengtl		. /	gy being rbed so
19	In air, use echoe		Sound waves Ai	r Water	sol			Black body radiation	PHYSICS ONLY	wallilliz	idiated back, trap			h heats
Inci	lent Normal	Reflected	ravelling through ifferent mediums,		301	\	_//	3lac rac	∐≹I ⊏		atmosphere.	Ī		up.
	Angle of Angle of Incidence Reflect	tł	ne frequency stay	PHYSICS	Α	QA					reflect infrared	Hotter objects emit more infrared radiation.		
Angle of incide	nce = angle of refl		constant.	ONLY	Wa	aves	e.	g. Gamma	$\neg \lor$	Tadiation	radiation			
Angle of melde	(i) = (r)		Øincident air	reflected ray			Short	wavelengt	hs		te of absorption	1	ntensity a length of	
Reflection	Wave bounce	s off the su	rface.	refracted ray	have high fre				ncy	temperature = r	ate of radiation	affects temperature.		
Refraction	Waves changes direction at boundary.					waves and high energy.			PHYSICS ONLY			Units		
Transmitted	\\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				tromagnetic Continuous spectrum wave of transverse waves			agnificati	on = image size	Distance	Metres (i		n)	
Absorbed	Passes into but i	,	11.	1 /	-	nfrared		adio	0	ject size	Wave speed	Metres	per seco	nd (m/s)
	energy and he		denser denser	" / ← · · · · · · ·	Absorbed light changes into the cochlea store			HIGH	ER: Lenses	Wavelength	Metres (m) Hertz (Hz)		n)	
ossides	PHYSICS H	GHER ON	substance	ce									Frequency	·)
ear canal to the	→ N I	equencies	Longitudinal waves		changes in	changes into thermal energy		Real or virtual		Para Faran	Period	Seconds (s)		(s)
sound waves eardrum		Hearing between 20 vibrate, amplified by vhich creates pressure			store.			images.	2F	Image same size	ame size, upside down, rea		Flat surface reflection.	
V	Seismic	waves	ld and a	Black God	od emitters,	/	o ke		2F - F	-	upside down, real		refle	ction.
P wave	S wave	Seismogr	aph Whiteley Apple of the second		d absorbers		Properties Properties	virtual images.	< F		right way, virtual.	Diffuse		surface
Longitudinal	Transverse	Shows P	and S waves arriving a	†	or emitters,	<u> </u>	<u>s</u> 0	iiiuges.	1	I I I I I I I I I I I I I I I I I I I	- Igne way, we cause		refle	ection.
Fast	Slow	different	times.	surfaces poo	r absorbers	EM	wave	Dan	ger		Use		Low free long wav	
Travel through	Travels	'	g the times the waves	surfaces	d reflectors		adio	Saf	fe.		ations, TV, radio.			
solids and liquids	through solids		the monitoring centres, entre of earthquake can		EM waves		owave	Burni			, cooking, satellite		White	Wave lengths reflected
Produced by	by earthquakes. be found. $(v = x \div t)$.			refract		rared				te controls, cookir	- L			
Gryat	\$\sigma_ship	Transmitter The sound diske		Used for medical a	and foetal		sible	Damage					文	rve gths rbed
Moss	Water Sonar			scans.			violet Sunburn, car				<u> </u>		Black	Wave lengths absorbed
Date Cost 9 Studious 2 9 Studious 2 140 8 Studious 2 100 100 100 100 100 100 100 100 100 1	pulse sound pulse			Used to determine depth of			mutation				s, airport security	High freque		quency,
100	Bottom of sea	So	objects	objects under t	he sea.	Gai	mma		,	stermising, detect	ing and Killing Car	icei.	hort wav	elength

SPANISH YEAR 11 MODULE 4: LA PRUEBA ORAL

At the end of Module 4, you will be completing your GCSE oral exam which is worth 25% of your final GCSE grade. You will need to complete a speaking exam which will be recorded formally and sent to the examiner. There are three tasks which MUST be completed in the following order; role play, picture based discussion, general conversation based on two themes.

To prepare for these three elements you will need to revise ALL of the module vocabulary in your year 10 AND year 11 booklets!

The speaking exam will last for 7-9 minutes for the foundation tier and 10-12 minutes for the higher tier. The preparation time allowed for both tiers is 12 minutes (you will be preparing your responses to tasks 1 and 2 in this time).

Task 1 : Role Play	Task 2 : Picture Based Discussion	Task 3 : General Conversation	
You will be given a card on the day of the exam which will	You will be given a card on the day of the exam which will	This part of the exam is split into 2 parts.	
contain a scenario based on any of the topics that you have	contain a picture and some prompts. It could be on any of the		
studied in year 10 or year 11. In your student resource	topics that you have studied in year 10 or year 11. In your	The first part of the conversation opens with the topic	
booklet, you will find examples for you to practise and hints and tips to get the top grades.	student resource booklet, you will find examples for you to practise and hints and tips to get the top grades.	chosen by you in advance. You will need to start the conversation by giving a small presentation on your chosen topic for up to one minute.	
You will need to prepare your answers in the preparation	You will need to prepare your answers in the preparation time		
time before the exam starts. You may make notes but you must note write in full sentences.	before the exam starts. You may make notes but you must note write in full sentences.	Your teacher will continue the conversation on the chosen topic by asking you questions which you must answer.	
On your card you will see prompts telling you what you need to say – you need to put these into full sentences. Where you see a ?, you will need to ask the examiner a	The first bullet point will relate directly to the picture, the remaining questions will go beyond the picture but will be based on the same topic.	The second part of the conversation is based on a different topic which is not prepared and you will informed of the topic on the day of the exam.	
question.	Foundation tier , you will be provided with a picture and 5	Throughout the conversation, you will need to:	
Where you see a !, you will need to respond to an unknown	bullets in Spanish to	answer questions freely and produce extended	
question.	help in preparing for the 5 questions that you will be asked	sequences of speech	
4	during the assessment. You	develop conversations and discussions	
Foundation tier , there are 5 bullet points. You will need to	are allowed to ask (in Spanish) for questions to be repeated.	 give and justify your own thoughts and opinions 	
ask 1 question and respond to 1 unpredictable question.		refer to past, present and future events.	
You are required to speak only in the present tense or may	Higher tier , you will be provided with a picture and 5 bullets in		
use the	Spanish to help	You will choose your topic in advance and will therefore	
conditional tense where it is more natural to do so, e.g. 'me	in preparing for the 5 questions that you will be asked during	have time to prepare and revise at home for the first part	
gustaría.'	the assessment. The final bullet	of the conversation. The second topic, that you will know	
	is marked by the symbol '!' to denote one unpredictable	on the day, could be on any of the topics that you have	
Higher tier , there are 5 bullet points. You will need to ask 2	question. You are allowed to	studied in year 10 or year 11. In your student resource	
questions and respond to 1 unpredictable question. You	ask (in Spanish) for questions to be repeated.	booklet, you will find examples for you to practise and hints	
need to speak in the present tense (or you may use the		and tips to get the top grades.	
conditional) and respond to 1 question in the past tense.			

Notes		